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OFFICIAL CHEMICAL APPOINTMENTS

Seventh Edition

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THE INSTITUTE OF CHEMISTRY
OF GREAT BRITAIN AND IRELAND
(Founded 1877. Incorporated by Royal Charter, 1885)
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1931

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A LIST OF
OFFICIAL CHEMICAL APPOINTMENTS

COMPILED

by direction of the Council of the Institute of Chemistry
and under the supervision of the Publications Committee

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MAY 22 1931
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First Edition : June, 1906.
Second Edition : April, 1908.
Third Edition : January, 1910.
Fourth Edition : February, 1912.
Fifth Edition : March, 1924.
Sixth Edition : July, 1927.

PRINTED IN ENGLAND

540
Intl
1931
Remote Storage
26 Ap. 32 A. H. Trotter

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INTRODUCTION.

The object of this publication is to provide a list of official appointments which are or may be held by chemists.

In the preparation of this—the seventh—edition, the general scheme adopted in the previous editions has been adhered to; the information has been carefully corrected, and many additions have been made.

The list is arranged in the following main divisions:—(i) A list of appointments in Great Britain, in Northern Ireland and the Irish Free State, under the various Government Departments, County and Borough Councils, and other Authorities, and appointments in Universities, Colleges, Technological Institutions, Medical, Agricultural, and Veterinary Colleges, and in Public and Secondary Schools; (ii) a list of professional and teaching appointments in the Empire of India, the Dominion of Canada, the Commonwealth of Australia, the Dominion of New Zealand, the Union of South Africa, the British Colonies and Protectorates, and in Egypt and the Sudan Provinces; (iii) an Appendix giving concise information regarding Societies and Institutions for the advancement of chemical science and of professional and other chemical interests; (iv) Legislation, Orders, etc., affecting official chemical appointments, and further information regarding appointments overseas.

The publication demonstrates the extensive use of professional chemical services in connection with governmental and municipal administration; the lists of institutions where chemistry is taught bear evidence of the progress made in the promotion of scientific education. In addition to strictly chemical appointments, mention is made of many positions connected with Agriculture, Metallurgy and Assaying, Bacteriology, and other branches of work in which chemical knowledge and skill are necessary or useful. Particulars are given of Acts of Parliament and regulations under which the appointments are made, together with the conditions governing the selection of candidates for them.

The creation of official chemical appointments is a matter with which the Council of the Institute of Chemistry is specially concerned, since the main objects of the Institute consist in the promotion of the education and the examination of professional chemists, and the registration of those who have been found to be competent.

In 1918 the Council of the Institute prepared and published a pamphlet entitled "Suggested Government Chemical Service." The pamphlet was circulated to Government Departments in which Chemists were engaged, and also to Members of Parliament, in order to direct attention to the vital importance of chemical science in affairs of the State and the necessity for maintaining the efficiency of the Civil Service in that connection. The suggestions of the Council were as follows:—

(1) That, as candidates should be required to produce evidence of qualification, the appointment of chemists should be based on a system of selection by properly constituted authority, and not by examination or nomination.

(2) That the names of approved candidates should be placed on a short list from which the heads of the respective Government chemical establishments would themselves make the final selection.

(3) That persons appointed as chemists should be graded as civil servants in the Higher Division, preferably as members of a professional division, if such be at any time constituted, with status, emoluments and pension comparable with those of the members of other technical and learned professions employed by the Government.

(4) That, dependent on satisfactory service, the system should provide for certainty of promotion (with corresponding advance in emoluments) up to a definite rank, independent of the occurrence of vacancies.

(5) That suitable titles should be allotted to the different ranks of the Government Chemical Service, in order of seniority as under, the rank held by the head chemist in any establishment being determined by the size of the establishment and by the nature of the work carried out:—

Chief Chemist, with, in certain cases, a special departmental title.
Deputy Chief Chemist.
Superintending Chemist.
Principal Assistant Chemist.
Senior Assistant Chemist.
Junior Assistant Chemist.

(6) That definite salaries and increments should be prescribed for all ranks of the Government Chemical Service.

(7) That the secondary staff, to whom the title chemist would not be applicable, should be classified as under:—

Chemical Assistants (Senior and Junior), who should be men of good education, but without full professional qualification. (On obtaining the latter they would become eligible for appointment as chemists, and would acquire the status necessary for presenting themselves to the board of selection referred to above.)

Laboratory Assistants (Chief, Senior and Junior), who should be capable of performing simple chemical operations, assisting the chemists in the routine or mechanical parts of their work, fitting up apparatus, etc.

Laboratory Attendants (Senior and Junior), who would do the ordinary work of caretaking, cleaning of the laboratory and apparatus, etc., with prospects of promotion to Laboratory Assistant.

These suggestions were appreciated both by Departments and the chemists concerned, and in several instances, modifications were made in the directions indicated, but it appears to be probable that further modifications may be introduced, following on the Report of the Committee on the Staffs of Government Scientific Establishments, 1930.

The President of the Institute acts as a member of the Selection Committee for Temporary Assistants of the Government Laboratory, and the assistance of the Appointments Register of the Institute is frequently requested in filling vacancies both at home and abroad.

* * *

The information provided herein has been obtained from official sources, and the Council again acknowledges its indebtedness to the heads of Government Departments, Colonial Secretaries, Registrars and Secretaries of Universities and Colleges, Official Chemists, Town Clerks, and many others, without whose assistance and courtesy the list could not have been prepared.

Intended primarily for the use of professional chemists and those who contemplate the practice of chemistry as a profession, the publication has been found useful also by authorities and others interested in the application of chemistry to purposes of State and in the promotion of higher education in the science.

Further editions of the List will be published periodically, with the continued assistance of officials and the holders of appointments. Suggestions which may increase its usefulness will be welcomed and carefully considered. Communications should be addressed to the Registrar, Institute of Chemistry of Great Britain and Ireland, 30 Russell Square, London, W.C.1.

In order to assist Authorities to obtain the services of qualified professional chemists, as vacancies arise, a register of Fellows and Associates who are seeking appointments is kept at the offices of the Institute.

I.

Official Chemical Appointments

IN THE BRITISH ISLES.

Great Britain.

THE ADMIRALTY.

(Whitehall, London, S.W.1.)

THE DEPARTMENT OF SCIENTIFIC RESEARCH AND EXPERIMENT, ADMIRALTY, LONDON, S.W.1.

Director.—C. V. Drysdale, O.B.E., D.Sc., F.Inst.P.

THE ADMIRALTY CHEMIST'S DEPARTMENT
(H.M. DOCKYARD, PORTSMOUTH).

Admiralty Chemist.—F. G. Edmed, O.B.E., B.Sc. (Lond.), A.R.C.S., F.I.C.

Assistant Analysts.—F. H. Newington, F.I.C.; W. Cooper; H. R. Fitter; W. Killner; C. S. MacDonald; J. W. Slater, B.Sc. (Vict.), F.I.C.; E. J. Vaughan, M.Sc. (Lond.), A.R.C.S., A.I.C.; Miss C. A. Adams, B.Sc. (Manc.), A.I.C.; A. J. Bolt; A. P. Bridges; Miss D. E. Carter; W. Elder; J. Leedham; J. T. Pattison; A. G. D. Poole; W. Spear; Miss A. S. White; A. Wood, A.I.C.; L. G. Young.

Temporary Assistant Analysts.—F. Brookhouse, B.Sc. (Lond.), A.I.C.; S. Housley, B.Sc. (Birm.), A.I.C.; Miss E. E. Sparling, F.I.C.; D. Thorp, B.Sc. (Vict.), A.I.C.; W. C. G. Wheeler, B.Sc. (Q.U.B.).

ROYAL NAVAL CORDITE FACTORY, HOLTON HEATH.

Senior Scientific Officer.—E. W. Blair, B.Sc. (Lond.), F.I.C.

Scientific Officers.—H. N. Read, M.Sc. (Birm.), A.I.C.; C. W. Frost, B.Sc., A.R.C.S., F.Inst.P.

Chemists-in-Charge.—H. H. Hazel, M.A. (Cantab.), A.I.C.; J. Gallon, B.Sc. (Dun.).

Chemists.—W. Ledbury, M.Sc. (Birm.), F.I.C.; A. Whitaker, B.Sc. (Lond.), A.R.C.S., A.I.C.

Assistant Chemist.—A. H. Roberts, A.R.C.S., A.I.C.

THE ADMIRALTY—*continued.*

ROYAL NAVAL TORPEDO FACTORY, GREENOCK.

Assistant Analysts.—J. G. Ballingall, B.A. (Glas.), A.I.C.; G. A. Keay, B.A. (Glas.).

NAVAL ORDNANCE INSPECTION DEPARTMENT, HOLTON HEATH.

Head Chemist.—T. Stenhouse, B.Sc. (Lond.), A.R.C.S., A.R.S.M., F.I.C.

Chemist, Class I.—F. J. East, A.I.C.

Chemists, Class II.—R. McIntyre, A.R.C.Sc.I., F.I.C.; F. E. Wilson, B.Sc. (Lond.), A.I.C.; C. D. Lawrence, Ph.D. (Lond.), A.I.C.

Junior Assistant Chemists.—L. H. Brookes, B.Sc. (Lond), A.I.C.; E. W. F. English, M.A. (Cantab.); F. G. Heap, A.C.G.F.C., A.I.C.; G. F. Martin, A.I.C.; A. E. Robinson, B.Sc. (Liv.), A.I.C.; W. W. Rowland, B.Sc. (Edin.), A.I.C.

SHEFFIELD.

Chief Analyst.—F. G. Barker, A.I.C.

Analysts.—T. W. Lloyd, A.I.C.; W. C. Martin; S. Hornby.

Assistant Analysts.—J. Cross; J. D. Hill; J. Mills; E. Dawson; C. Bromfield; J. A. Allen.

In addition to the above the following Fellows and Associates hold appointments in the Scientific Research and Experiment Department, Admiralty:—

Principal Scientific Officer.—D. J. Matthews, F.I.C.

Scientific Officers.—H. R. Cantelo, M.Sc. (Lond.), A.I.C.; I. Fagelston, M.Sc. (Lond.), A.I.C.; H. Gollop, B.Sc. (Wales), F.I.C.; A. G. Milligan, M.Sc. (Q.U.B.), A.I.C.

ARMAMENT SUPPLY DEPARTMENT.

Manager and Deputy Superintendent.—W. T. Thomson, O.B.E., F.I.C.

Assistant Manager.—R. S. G. Knight, B.Sc. (Lond.), A.R.C.S., D.I.C., F.I.C.

ROYAL NAVAL ARMAMENT DEPÔT, CROMBIE, FIFE.

Laboratory Manager.—R. V. Eaton, B.Sc. (Lond.), A.R.C.S., A.I.C.

THE ADMIRALTY—*continued.*

DEPARTMENT OF THE CIVIL ENGINEER-IN-CHIEF.

The analysis and testing of cement and certain other materials for this department are conducted at H.M. Dockyard, Chatham, under the direction of Frank William Witcombe.

ADMIRALTY ENGINEERING LABORATORY.

(WEST DRAYTON, MIDDLESEX).

Scientific Officers.—J. H. Darley, A.I.C.; A. G. Milligan, M.Sc. (Q.U.B.), A.I.C. (*pro tem.*); C. C. Smith, B.Sc. (Bris.), M.Sc.Eng. (Lond.), A.R.S.M., A.I.C.

VICTUALLING DEPARTMENT.

ROYAL VICTORIA YARD, DEPTFORD, LONDON, S.E.8.

Technical Examining Officer.—S. O. Richmond, F.I.C.

Assistant Technical Examining Officer.—D. Anthony-Langsdale, B.Sc. (Lond.), A.I.C.

ROYAL CLARENCE YARD, GOSPORT.

Technical Examining Officer.—H. J. Lewin, F.I.C.

ROYAL WILLIAM YARD, PLYMOUTH.

Technical Examining Officer.—R. M. Filmer, B.Sc. (Lond.), F.I.C.

Analyses for the Victualling Department are also conducted at the Government Laboratory (*see* p. 58).

MARINE BIOLOGICAL LABORATORY.

(CITADEL HILL, PLYMOUTH).

Head of Department of General Physiology.—W. R. G. Atkins, O.B.E., M.A., Sc.D. (Dub.), F.I.C., F.R.S.

ROYAL NAVAL COLLEGE, GREENWICH, LONDON, S.E.10.

Professor of Chemistry.—J. S. S. Brame, C.B.E., F.I.C.

Lecturers.—F. A. Ruddock, A.I.C.; J. S. Lewis, M.Sc.

ROYAL NAVAL MEDICAL COLLEGE, GREENWICH, S.E.10.

Assistant to Professor of Hygiene.—R. C. Frederick, A.I.C.

ROYAL NAVAL COLLEGE, DARTMOUTH (*see* p. 157).

THE MINISTRY OF AGRICULTURE AND FISHERIES.

(Whitehall Place, London, S.W.1)

Among the matters with which the Ministry is concerned may be mentioned the administration of the Fertilisers and Feeding Stuffs Act, and of the Sale of Food and Drugs Acts (in their relation to agricultural produce), in England and Wales, and the distribution of a grant voted by Parliament for Agricultural Education in England and Wales.

Fertilisers and Feeding Stuffs Act, 1926 (16 & 17 *Geo.* 5 *Ch.* 45).

This Act repeals the Fertilisers and Feeding Stuffs Act of 1906. Appended to the Act are five Schedules:—

(1) Articles to which all the provisions of the Act are applicable.

(2) Articles to which some only of the provisions of the Act are applicable.

(3) Ingredients in feeding stuffs the presence of which must be declared.

(4) Definitions implied on the sale of articles under certain names.

(5) Deleterious ingredients in feeding stuffs.

Section 1 requires every person who sells for use as a fertiliser of the soil, or as a food for cattle or poultry, any article in the First or Second Schedule, to give to the purchaser a statement in writing in the prescribed form, containing the name under which the article is sold, and the particulars required in the Schedules.

The above Section does not apply to mixtures made at the request of the purchaser, or to sales of quantities of less than 56 pounds, provided the article sold is taken, in the presence of the purchaser, from a parcel on which is conspicuously marked the particulars required by this Section.

Section 2 provides that a statutory statement given by the seller shall have the effect of a warranty, notwithstanding any contract or notice to the contrary.

On the sale of a cattle or poultry food included in the First or Second Schedules there shall be an implied warranty that the article is suitable for use as a feeding stuff and does not contain an ingredient included in the Third Schedule. The name shall have effect as a written warranty that the food accords with the definition contained in the Schedules. A statement as to the amount of ingredients or as to the fineness of grinding of a fertiliser, or as to the amount of an ingredient in a feeding stuff, shall have effect as a warranty. No action, however, can be taken if the mis-statement contained in a warranty does not exceed the limits of variations prescribed under the Act, but if the mis-statement exceeds such limits, the rights of a purchaser shall not be affected by such limits.

Section 3. The purchaser of any fertiliser or feeding stuff in respect of which a warranty, expressed or implied, has been given by the seller, shall be entitled to have a sample of the article taken by an official sampler and analysed by an agricultural analyst, and to receive a certificate of analysis, on the payment of a fee to be fixed. A purchaser requiring a sample to be taken must, on request, furnish to the official sampler the statutory statement or a copy thereof. The official sampler must draw the sample in a prescribed manner, and the sample shall not be taken after the expiration of 14 days from the delivery of the article, or the receipt of the statutory statement by the purchaser, whichever date may be the later.

Section 4 provides that every parcel of an article included in the First Schedule when prepared for sale or consignment, and before being removed from the premises where it has been prepared, shall be marked with the particulars required by the Act, or with a mark indicating such particulars. Any person dealing in such parcels shall keep, in such form as may be prescribed, a register of marks specifying the particulars which the marks indicate. On the sale of a parcel where the particulars are expressed by a mark, the mark must be added to the statutory statement. If any parcel does not contain the required mark, or if from the analysis of a sample taken by an inspector in the prescribed manner on the premises on which the parcel was exposed for sale, or on any premises on which the parcel after having been marked may happen to be before being delivered to a purchaser or carrying agent, it appears that the particulars are false to the prejudice of the purchaser or do not include particulars required by the Act, the person selling or having in his possession the parcel shall be guilty of an offence against the Act.

Section 5 makes special provisions for articles delivered direct from a ship or quay to a purchaser.

Section 7 provides that any person who sells, or offers, or exposes, or has in his possession prepared for sale, a feeding stuff which contains any deleterious ingredient shall be guilty of an offence unless (a) he could not reasonably have had knowledge that the article contained a deleterious ingredient (b) he obtained the feeding stuff from some other person, and that he gave all the information in his power, on demand, respecting the person from whom he obtained it, and as to the statutory statement given to him.

Section 8 prescribes the penalties which may be inflicted, on summary conviction, for various offences against the Act.

Section 9 compels the production of any register kept under this Act on demand by an inspector.

Section 11 deals with administrative provisions. The enforcement of the Act is made the duty of the council of every county or county borough, and for this purpose to appoint agricultural analysts, and such inspectors and official samplers as may be necessary. The inspector must be a whole-time officer of the authority or authorities in the case of a joint appointment.

The council of any county or county borough may appoint a deputy agricultural analyst, who shall have all the powers of the agricultural analyst in the case of illness, incapacity, or absence of the agricultural analyst, or pending the appointment of an agricultural analyst. The appointment of an agricultural analyst or his deputy or of inspectors and official samplers shall be subject to the approval of the Minister. A council may concur with one or more other councils in making any appointment which they are authorised to make and to apportion the expenses of any such joint appointment.

Section 12 provides for the power of entry by an inspector to any premises in which he has reasonable cause to believe that there is any article included in the First Schedule of the Act which has been prepared for sale or consignment, or any article in the First or Second Schedules which is stored for use and to take samples. An inspector may obtain power to act in respect of premises situate in any county or county borough with the consent of that county or county borough. Samples may be taken by an inspector otherwise than in the prescribed manner but the name of the seller, purchaser, or owner must not be communicated to any person.

If, in the opinion of the Minister, any council of a county or county borough have insufficiently exercised their powers under the Act, an inspector appointed and authorised by the Minister may take samples and submit them to the agricultural analyst for the county or county borough in which the samples were taken, and obtain payment from the county or county borough for the expenses incurred.

Section 13. An inspector or official sampler in taking a sample in the prescribed manner shall divide it into three parts and shall mark, seal and fasten up each part and send two of them to the agricultural analyst together with a signed statement that the sample was taken in the prescribed manner, and the third part must be delivered to the owner or seller as may be prescribed.

The agricultural analyst shall analyse one of the parts of the samples sent to him and shall retain the other. If the owner or seller of any article taken and analysed, or if the person on whose behalf the sample is taken, objects to the certificate of the agricultural analyst, on payment of a fee the remaining part of the sample must be submitted to the Government Chemist for analysis. With a sample sent for analysis to the agricultural analyst there shall also be sent any statutory statement or warranty relating to the article, or a copy of the particulars with which it was marked or indicated by a mark. A certificate of the analysis of a sample taken in the prescribed manner must be sent by the agricultural analyst to the person who submitted the sample, to the purchaser, and to the owner or seller of the article.

Section 14 provides a heavy penalty on the summary conviction of any person who fraudulently tampers with any article so as to procure that any sample taken does not correctly represent the article, or who may interfere with any sample taken under the Act.

Section 15 makes it an offence for any person to wilfully delay or obstruct an inspector in the execution of his duties.

Section 16 prohibits an inspector from disclosing information obtained by him in exercising his powers except to persons acting in the execution of the Act.

Section 17 empowers councils to contribute towards the expenses incurred by any agricultural body in causing samples to be taken by an official sampler. Provision is also made for the fixing of fees payable in respect of the sampling and analysis of samples taken on the request of purchasers. The expenses incurred by the Act shall be defrayed in the case of a county council as expenses for general county purposes and in the case of a county borough out of the borough fund.

Section 18. Local authorities are required to make quarterly returns to the Minister of the results of the analysis of samples submitted to the agricultural analyst, and the agricultural analyst must furnish to the council the necessary information.

Sections 19 to 22 inclusive deal with legal proceedings. With certain reservations, proceedings for offences may only be commenced with the consent of the Minister. If the analysis of an article is involved, the consent of the Minister may only be given after a certificate of analysis has been obtained from the Government Chemist. The institution of proceedings is limited generally to within three months from the date on which a sample is taken. Proceedings may be taken in the place where the person charged resides or carries on his business if the prosecutor so desires and may be instituted by the person aggrieved or by a county or county borough council. The certificate of an official agricultural analyst shall be sufficient evidence of the facts therein stated when produced at the hearing of any civil or criminal proceedings unless the person charged requires the attendance of the agricultural analyst or a further analysis by the Government Chemist.

Section 23 permits the Minister and the Board of Agriculture for Scotland, after consultation with the Advisory Committee to be constituted, to make regulations for prescribing anything authorised by the Act. This involves the possible variation of Schedules, the manner in which articles shall be marked, the limits of variation, the manner in which samples shall be taken, methods of analysis, and qualifications of agricultural analysts and the form of their certificates. For the purpose of assisting the Minister an Advisory Committee shall be appointed consisting of representatives of Associations interested.

Section 25 provides that for the purposes of the Act the expressions "percentage of soluble phosphates" and "percentage of insoluble phosphates" shall mean respectively the percentage of tribasic phosphate of lime which has been and that which has not been rendered soluble in water. (Foot-note Schedules 1 and 2 provides for the statement of the percentage of P_2O_5.)

Sections 27, 28 and 29 provide that the Act applies to the Port and City of London, to Scotland, and to Northern Ireland, subject to modifications.

Though the Fertilisers and Feeding Stuffs Act of 1906 is repealed, nothing in the repeal shall affect any appointment made under that Act and any such appointment shall have effect as if made under this Act.

Appointments Confirmed by the Ministry of Agriculture and Fisheries.

Chief Agricultural Analyst.—Sir Robert Robertson, K.B.E., M.A., D.Sc., LL.D. (St. Andrews), F.I.C., F.R.S., Government Chemist, The Government Laboratory. (p. 58).

ENGLAND.

County Boroughs are distinguished by the initials (C.B.).

COUNTY.	BOROUGH.	OFFICIAL AGRICULTURAL ANALYST.
Bedford ..	.. .. ..	Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
Berks.	.. .. ..	John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C. *Deputy*, Eric Voelcker, A.R.C.S., F.I.C.

COUNTY.	BOROUGH.	OFFICIAL AGRICULTURAL ANALYST.
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Cambridge		S. Greenberg, F.I.C.
Cheshire		S. Ernest Melling, F.I.C.
	Birkenhead	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
	Chester (City & C.B.)	W. Foulkes Lowe, A.R.S.M., F.I.C. *Deputy*, Harold Lowe, M.Sc. (Manc.), F.I.C.
	Hyde	William Marshall, F.I.C.
	Stockport (C.B.)	
	Wallasey (C.B.)	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
Cornwall		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
Cumberland		C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	Carlisle (City)	
Derby		John White, F.I.C.
	Derby (C.B.)	
Devon		Thomas Tickle, B.Sc. (Lond.), F.I.C.
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	Plymouth (City)	
Dorset		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, George Taylor, F.I.C.
Durham		C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	Darlington (C.B.)	
	Gateshead (C.B.)	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
	Hartlepool	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	South Shields	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
	Sunderland (C.B.)	
	West Hartlepool (C.B.)	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
Essex		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
	Southend-on-Sea	Leo Taylor, F.I.C.
	West Ham (C.B.)	W. C. Young, F.I.C.
Gloucester		Rowland H. Ellis, F.I.C.
	Bristol (City & C.B.)	Edward Russell, B.Sc. (Lond.), F.I.C.
	Gloucester (City & C.B.)	Rowland H. Ellis, F.I.C.
Hants.		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
	Bournemouth	R. A. Cripps, F.I.C.
	Portsmouth	R. P. Page, F.I.C.

COUNTY.	BOROUGH.	OFFICIAL AGRICULTURAL ANALYST.
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HERTS.		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
HUNTS		S. Greenberg, F.I.C.
ISLE OF ELY		John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C. *Deputy*, Eric Voelcker, A.R.C.S., F.I.C.
ISLE OF WIGHT		
KENT		F. W. F. Arnaud, F.I.C.
	Canterbury (City & C.B.)	Ernest M. Hawkins, F.I.C.
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	Barrow-in-Furness (C.B.)	H. H. Ward.
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	Bolton (C.B.)	Harry Hurst, B.Sc. (Lond.), F.I.C.
	Bootle (C.B.)	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
	Burnley	F. Maudsley, B.Sc. (Vict.), F.I.C.
	Bury	T. J. Hutchinson, F.I.C.
	Liverpool (City & C.B.)	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C. *Deputy*, E. G. Jones, M.Sc. (Vict. & Liv.), F.I.C.
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	Rochdale (C.B.)	S. Ernest Melling, F.I.C.
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	Salford (City)	H. E. Monk, B.Sc. (Liv.), F.I.C.
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	Wigan (C.B.)	S. Ernest Melling, F.I.C.
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	Leicester (City & C.B.)	S. F. Burford, F.I.C.

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(West)		Bernard Dyer, D.Sc. (Lond.), F.I.C. *Deputy*, G. Taylor, F.I.C.
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	York (C.B.)	John Evans, F.I.C.
(North Riding)		Alfred Scholes, F.I.C. *Deputy*, E. W. Jackson, F.I.C.
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(West Riding)		H. T. Lea, M.Sc. (Birm.), F.I.C.

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	Huddersfield (C.B.)	L. Gordon Paul, Ph.D. (Tübingen), F.I.C.
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	Rotherham (C.B.) Sheffield (City & C.B.)	John Evans, F.I.C.
	Wakefield	F. W. Richardson, F.I.C.

WALES.

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BRECONSHIRE		H. H. Ward. *Deputy.*—Clarence A. Seyler, B.Sc. (Lond.), F.I.C.
CARDIGAN		John Evans, F.I.C.
CARMARTHEN		Clarence A. Seyler, B.Sc. (Lond.), F.I.C.
CAERNARVON DENBIGH FLINT		W. Foulkes Lowe, A.R.S.M., F.I.C. *Deputy.*—Harold Lowe, M.Sc. (Manc.), F.I.C.
GLAMORGAN		Clarence A. Seyler, B.Sc. (Lond.), F.I.C.
	Cardiff (City)	Stanley Dixon, M.Sc. (Sheffield), F.I.C.
	Merthyr Tydfil (C.B.)	R. P. Charles, T.D., M.D. (Berne), L.M.S.S.A., F.I.C.
	Swansea	Clarence A. Seyler, B.Sc. (Lond.), F.I.C.
MERIONETH MONTGOMERY		H. H. Ward.
PEMBROKE		Clarence A. Seyler, B.Sc. (Lond.), F.I.C.
RADNOR		H. H. Ward.

ADVISORY AGRICULTURAL CHEMISTS.

Appointments of Advisory Agricultural Chemists in England and Wales are given in the list of Agricultural Colleges, etc. (see p. 155).

SCOTLAND.

COUNTY.	BURGH.	OFFICIAL AGRICULTURAL ANALYST.
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	Aberdeen	A. B. Weir, B.Sc. (Edin.), A.I.C.
ARDROSSAN		J. W. Biggart, F.I.C.
ARGYLL		
AYR		
BANFF		J. F. Tocher, D.Sc. (Aberd.), F.I.C.,
BERWICK		A. Scott Dodd, Ph.D. (Edin.) F.I.C.
BUTE		J. W. Biggart, F.I.C.
CAITHNESS		J. F. Tocher, D.Sc. (Aberd.), F.I.C.
CLACKMANNAN		G. H. Gemmell, F.I.C.
DUMBARTON		R. R. Tatlock, F.I.C.; R. T. Thomson, F.I.C.
	Dumbarton	R. M. Clark, B.Sc. (Glas.), F.I.C.
DUMFRIES		John W. Hawley, B.Sc. (Lond.), F.I.C.
	Dumfries	
EAST LOTHIAN		G. H. Gemmell, F.I.C.
ELGIN (*see* Moray)		
FIFE		A. M. Cameron, B.Sc. (Edin.), F.I.C.
	Dunfermline	Andrew Dargie, B.Sc. (St. Andrews), A.I.C.
	Kirkcaldy	
FORFAR		Andrew Dargie, B.Sc. (St. Andrews), A.I.C.
HADDINGTON		G. H. Gemmell, F.I.C.
INVERNESS		J. F. Tocher, D.Sc. (Aberd.), F.I.C.
KINCARDINE		
KINROSS		A. Scott Dodd, Ph.D. (Edin.), F.I.C.
KIRKCUDBRIGHT		John W. Hawley, B.Sc. (Lond.), F.I.C.
LANARK		R. R. Tatlock, F.I.C.; R. T. Thomson, F.I.C.
	Glasgow	F. W. Harris, F.I.C. *Deputy*.—Thomas Cockburn, F.I.C.
LINLITHGOW		
MIDLOTHIAN		G. H. Gemmell, F.I.C.
	Edinburgh (City)	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Musselburgh	
MORAY		A. Scott Dodd, Ph.D. (Edin.), F.I.C.
ELGIN		
NAIRN		J. F. Tocher, D.Sc. (Aberd.), F.I.C.
ORKNEY		A. Scott Dodd, Ph.D. (Edin.), F.I.C.
PEEBLES		G. H. Gemmell, F.I.C.

COUNTY.	BURGH.	OFFICIAL AGRICULTURAL ANALYST.
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RENFREW		R. M. Clark, B.Sc. (Glas.), F.I.C.
	Greenock	J. W. Biggart, F.I.C.
	Paisley	R. M. Clark, B.Sc. (Glas.), F.I.C.
ROSS AND CROMARTY		T. W. Drinkwater, F.I.C.
ROXBURGH SELKIRK SHETLAND		A. Scott Dodd, Ph.D. (Edin.), F.I.C.
STIRLING		R. R. Tatlock, F.I.C.; R. T. Thomson, F.I.C.
SUTHERLAND		J. F. Tocher, D.Sc. (Aberd.), F.I.C.
WIGTOWN		John W. Hawley, B.Sc. (Lond.), F.I.C.
ZETLAND		A. Scott Dodd, Ph.D. (Edin.), F.I.C.

ISLE OF MAN AND CHANNEL ISLANDS.

The Official Agricultural Analysts in the Isle of Man and the Channel Islands are the Official Analysts appointed respectively under the Sale of Food and Drugs Acts of the Islands (*see* p. 80).

MINISTRY OF AGRICULTURE (FISHERIES DEPARTMENT).

River Pollution.

In 1921, the Ministry set up a Standing Committee on River Pollution: (1) to evolve agreed provisions as to pollution in the Salmon and Freshwater Fisheries Bill; (2) to secure the effective working thereof; (3) to collect scientific information as to the purity of rivers; and (4) to assist the Ministry in the discovery of remedial measures.

The work of this Committee led to the passing of the Salmon and Freshwater Fisheries Act, 1923, Sections 8 and 55 of which contain provisions relating to river pollution in the interests of fisheries.

The Standing Committee has issued four Reports as Stationery Office publications, in 1921, 1925, 1926 and 1930. These reports contain a large amount of useful information regarding the pollution of specific rivers and an account of the work done by the Committee towards the mitigation of pollution.

Dr. E. C. Jee is technical adviser to the Standing Committee

ASSAY OFFICES.

Assay offices are constituted under Royal Charters for the hall-marking of gold and silver plate. The Officers are usually appointed by the Goldsmiths' Companies.

ASSAY OFFICE.	ASSAY MASTER.	ASSAYER.
BIRMINGHAM	A. Westwood	——
CHESTER	W. Foulkes Lowe, A.R.S.M., F.I.C.,	
DUBLIN	A. Le Bas	Miss M. Fylan, Assistant Assay Master.
EDINBURGH	T. V. Pollock	T. V. Pollock.
GLASGOW	D. D. Graham	D. D. Graham.
LONDON	A. D. Bishop	C. Hobday, Assnt. Assay Master.
SHEFFIELD	B. W. Watson	R. M. Harland, A.R.S.M., Deputy Assay Master.

AIR MINISTRY.

(Adastral House, Kingsway, London, W.C.2.)

ROYAL AIRCRAFT ESTABLISHMENT, FARNBOROUGH.

CHEMICAL DEPARTMENT.

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Scientific Officers.—J. O. Hughes, B.Sc A.I.C.; G. Palmer, B.Sc.; W. G. Glendinning, B.A., B.Sc., A.I.C.; J. D. F. West, B.A., A.I.C.

METALLURGICAL DEPARTMENT.

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Scientific Officers.—L. F. Le Brocq, B.Sc., A.I.C.; J. W. W. Willstrop, B.Sc., A.I.C.; A. J. Sidery.

Technical Officers.—C. W. George; G. Meikle.

ROYAL AIRSHIP WORKS, CARDINGTON.

Chemist.—J. W. W. Dyer, M.Sc. (Lond.), A.I.C.

AERONAUTICAL INSPECTION DIRECTORATE.

Inspector.—J. J. A. Gilmore, B.A., A.R.C.Sc.I.

Assistant Inspectors.—J. Jarman, M.Sc., A.R.C.S., A.I.C.; A. J. E. Thornton.

Chief Examiners.—E. M. Goldie, A.I.C.; C. le Quesne, B.Sc.; J. C. Thomas, M.Sc.

Examiners.—H. J. Curnow, B.Sc.; G. S. Smith, B.Sc., A.I.C.; W. Johnson.

Women Chemists.—Miss C. Lander, A.I.C.; Miss L. G. Gibb, B.Sc.

BACTERIOLOGISTS.

Chemical appointments, in some instances, involve considerable knowledge, skill and experience, in bacteriology. Public Analysts are not infrequently required to act as bacteriologists for their authorities, e.g., for Bolton, Bristol, Hull, the County of Somerset, the County of Aberdeen, and the County and City of Worcester.

THE BANK OF ENGLAND.

(Threadneedle Street, London, E.C.2.)

Assaying for the Bank of England is entrusted to private practitioners.

BRITISH MUSEUM.

Investigations upon the cleaning and restoration of Museum Exhibits are conducted at the British Museum by Alexander Scott, M.A., Sc.D. (Cantab.), F.I.C., F.R.S., assisted by H. J. Plenderleith, Ph.D., E. C. Padgham, and L. H. Bell.

(IMPERIAL) CANCER RESEARCH FUND.

(8–11, Queen Square, W.C.1.)

Research Chemist.—H. G. Crabtree, M.Sc. (Liv.), A.I.C.

COLONIES AND DOMINIONS.

The appointments of Government Chemists and other appointments requiring chemical knowledge in various parts of the British Empire are scheduled under the respective Dominions, Colonies and Protectorates (p. 218). For appointments in Canada, Australia, New Zealand, South Africa, the Irish Free State, Newfoundland and Southern Rhodesia, application should be made direct to the Governments concerned or to their respective representatives in London, viz., the High Commissioners for Canada, the Commonwealth of Australia, New Zealand, the Union of South Africa, the Irish Free State, Newfoundland and Southern Rhodesia, and the Agents General for the Australian States. In the case of Government appointments in the Colonies and Protectorates the selection rests with the Secretary of State for the Colonies, and applications should be addressed to the Appointments Department, Colonial Office, 2, Richmond Terrace, Whitehall, London, S.W.1.

A memorandum entitled "Agricultural, Forestry, Veterinary and other Scientific Appointments in the Colonial Service" can be obtained from the Private Secretary (Appointments). This contains a list of chemical appointments, together with some particulars of the conditions of service.

THE CROWN AGENTS FOR THE COLONIES.

(4, Millbank, London, S.W.1.)

Chemist, Testing Laboratory.—D. Kenrick, B.Sc.Tech. (Manc.), A.I.C.

Consulting Chemists.—Messrs. Riley, Harbord, and Law (Frank W. Harbord, C.B.E., A.R.S.M., F.I.C.; E. F. Law, A.R.S.M.; Vernon Harbord, A.R.S.M., A.I.C.).

THE BOARD OF CUSTOMS AND EXCISE.

(The Custom House, Lower Thames Street, London, E.C.3.)

(*See Government Laboratory*, p. 58.)

THE BOARD OF EDUCATION.

(Whitehall, London, S.W.1.)

A high standard of knowledge of chemistry is required as a qualification for certain appointments to the office of His Majesty's Inspector of Schools, and for membership of certain Boards of Examiners under the Board of Education.

The Inspectors are appointed by the President of the Board, scientific qualifications, including those in respect of chemistry, and teaching and industrial experience, being taken into consideration.

Officers engaged in the inspection of science teaching in secondary schools are concerned with the teaching of pure chemistry; the chemistry inspectors of the technological branch are responsible for the inspection of instruction in technical colleges and schools in both pure and applied chemistry.

The following four inspectors attached to the technological branch are specially concerned with the inspection of instruction in chemistry and its industrial applications:—C. H. Creasey, G. W. Hefford, B.Sc., F.I.C., A. Jamieson Walker, B.A., Ph.D., F.I.C., John Wilson, M.Sc., F.I.C. In addition, certain other members of the inspectorate have high academic qualifications in chemistry.

The technological branch of the Board of Education also employs, as occasional inspectors of instruction in applied chemistry, persons eminent both in the science and in chemical industry.

THE SCIENCE (VICTORIA AND ALBERT) MUSEUM (*see* p. 92).

Professors and Teachers of Chemistry in Universities, Colleges, Schools of Technology, etc. (*see* p. 120); in Public and Secondary Schools (p. 160); in Medical and Dental Colleges and Schools (p. 151); in Agricultural Colleges and Schools (p. 155); in Veterinary Colleges (p. 159).

GAS EXAMINERS.

Gas Undertakings Acts, 1920 *and* 1929.

The Gas Regulation Act, 1920, as amended by the Gas Undertakings Act, 1929, provides that all gas undertakings in Great Britain, operating under statutory powers and supplying not less than twenty million cubic feet of gas per annum, shall charge by the "therm" for all gas sold by them. A few smaller statutory undertakings are also authorised to sell by the "therm," but the others and all non-statutory gas companies are precluded from selling gas on that basis.

A "therm" is 100,000 British Thermal Units gross, and in all localities in which gas is sold by the "therm" these Acts provide that Gas Examiners may be appointed to test the calorific value, purity in respect of freedom from sulphuretted hydrogen, and pressure of the gas supplied.

These Acts provide that the local authority or Quarter Sessions (in Scotland, the Sheriff), may appoint a competent and impartial person to be a Gas Examiner to test the gas supplied by any gas undertaking in the area of the local authority. The competent local authority for rural districts is the County Council. A local authority which owns the gas undertaking may not itself appoint the Gas Examiner. The Gas Examiner tests in accordance with the prescription of the Gas Referees appointed by the Board of Trade.

There are three Gas Referees; at least one of whom "shall be a person having practical knowledge and experience in the manufacture and supply of gas." The Gas Referees prescribe the places and times at which, and the apparatus and method by which, tests shall be made; the method of verifying testing apparatus; the time and form of reports to be made by the Gas Examiner; and the means by which the results of the tests shall be made available to the public. The Gas Referees also prescribe the manner in which the average calorific value of the gas supplied in any quarter by each gas undertaking is to be ascertained.

The Board of Trade has to appoint a competent and impartial person to be Chief Gas Examiner, whose duties under the Act comprise the hearing and deciding of appeals against prescriptions of the Gas Referees and against reports of Gas Examiners, the determination of the amount to be applied towards a reduction in the price of gas when the average calorific value of the gas supplied in any quarter is less than the value which the gas undertakers have declared they intend to supply, and the assessment of forfeiture in certain cases of default by the undertakers. In other cases, forfeiture may be imposed by a Court of Summary Jurisdiction.

Up to 30th September, 1930, the Gas Referees had prescribed 839 official testing places in respect of 665 gas undertakings, and Examiners had been appointed for the whole or some part of the area of supply of 432 of these undertakings. In a large proportion of these appointments the same Gas Examiner acts jointly for the districts of two or more local authorities.

Staffs of chemists are employed at all the larger gas works in connexion with the control of the manufacturing operations, the analysis and treatment of by-products, and, in many instances, on research work.

These staff appointments are made either by the Board or General Manager, if the gas works belongs to a Company, or by the Council, through its Gas Committee or General Manager, if the gas works belongs to the local authority.

A "Return relating to all Authorised Gas Undertakings in Great Britain," prepared and revised annually by the Board of Trade, is published by H.M. Stationery Office, and gives particulars of the ownership and scale of operations of Statutory Gas Undertakings.

In many of the municipal gas works, research and works chemists appointed by the local authorities, through their Gas Committees, are employed. In the larger works, staffs of chemists are employed for the chemical and analytical work required in the control of the manufacturing operations, and also for the analysis and purification of the bye-products from the works. In the smaller works duties are frequently carried out by laboratory assistants under the direction of the manager, who is often an engineer, with the occasional help of local consulting chemists.

The "General Notification of the Gas Referees," giving their general Prescriptions is published by H.M. Stationery Office Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh; York Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 15, Donegall Square West, Belfast; or through any Bookseller.

Gas Referees (address, 66, Victoria Street, London, S.W.1).—C. V. Boys, A.R.S.M., F.R.S.; W. J. A. Butterfield, M.A. (Oxon.), F.I.C.; J. S. Haldane, C.H., M.A. (Oxon.), M.D. (Edin.), F.R.S.

Chief Engineering Assistant to the Gas Referees.—E. H. Swain, A.M.I.Mech.E.

Chief Technical Assistant to the Gas Referees.—Major C. G. Hyde, A.R.C.S., F.I.C.

Deputy Chief Technical Assistant.—L. S. Cheeseright, B.Sc., A.I.C.

Chief Gas Examiner (address, c/o Board of Trade, London, S.W.1).—Sir Richard T. Glazebrook, K.C.B., F.R.S.

The following list of Gas Examiners has been supplied by the Gas Referees. It includes the names as notified to them up to the 20th December, 1930. The List is believed to be complete to that date, but alterations and additions are constantly being made.

ENGLAND.

COUNTY.		GAS EXAMINER.
BEDFORDSHIRE	Bedford (Borough)	R. W. L. Phillips.
	Biggleswade (U.D.)	J. W. Heath; W. J. Green, B.Sc.
	Dunstable (Borough)	S. Fleminger.
	Kempston (U.D.)	R. W. L. Phillips; E. T. Fell.
BERKSHIRE	Easthampstead (R.D.)	S. Fleminger; C. Gray.
	Reading (Borough)	H. J. Milligan, M.D., D.P.H.; J. M. Taylor.
	Windsor (R.D.)	S. Fleminger; C. Gray.
	Wokingham (Borough)	L. A. Rumble.
BUCKINGHAMSHIRE	Aylesbury (Borough)	W. H. Taylor.
	Chepping Wycombe (Borough)	H. Baker.
	Eton (R.D.) ..	G. S. Sayner.
	Newport Pagnell (U.D.)	W. J. Budds.

COUNTY.		GAS EXAMINER.
CHESHIRE	Alderley Edge (U.D.)	J. Booth.
	Altrincham (U.D.)	W. M. Carr.
	Ashton-upon-Mersey (U.D.)	J. Booth.
	Bebington and Bromborough (U.D.)	A. McGookin, Ph.D. (Liv.) A.I.C.
	Bowdon (U.D.)	W. M. Carr.
	Bredbury and Romiley (U.D.)	S. N. Brown.
	Bucklow (R.D.)	J. Booth; W. M. Carr; W. M. Beckett, M.B.E.
	Cheadle and Gatley (U.D.)	J. Booth.
	Chester (City & C.B.)	P. D. Bown.
	,, (R.D.)	J. H. Noble.
	Congleton (R.D.)	W. M. Beckett, M.B.E.
	Disley (R.D.)	J. White, F.I.C.; J. Booth.
	Dukinfield (Borough)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Ellesmere Port and Whitby (U.D.)	J. H. Noble.
	Hale (U.D.)	W. M. Carr.
	Handforth (U.D.)	J. Booth.
	Hazle Grove and Bramhall (U.D.)	J. Booth.
	Hoylake and West Kirby (U.D.)	R. A. Morton, D.Sc. (Liv.), F.I.C.
	Hyde (Borough)	S. N. Brown.
	Knutsford (U.D.)	W. M. Beckett, M.B.E.
	Lymm (U.D.)	J. Booth.
	Macclesfield (R.D.)	J. Booth.
	Marple (U.D.)	
	Middlewich (U.D.)	W. M. Beckett, M.B.E.
	Northwich (U.D. & R.D.)	
	Sale (U.D.)	J. Booth.
	Sandbach (U.D.)	W. M. Beckett, M.B.E.
	Stockport (C.B.)	J. Booth.
	Tintwistle (R.D.)	
	Wilmslow (U.D.)	
	Wirral (R.D.)	R. A. Morton, D.Sc. (Liv.), F.I.C.; J. H. Noble; A. McGookin, Ph.D. (Liv.), A.I.C.
CORNWALL	Falmouth (Borough)	H. Kelway; G. E. Barnard.
	Newquay (U.D.)	C. W. Somerville.
	St. Ives (Borough)	C. E. Pearce.
	Truro (City)	W. H. Ennor.

COUNTY.		GAS EXAMINER.
DERBYSHIRE	Alfreton (U.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Ashbourne (U.D. & R.D.)	
	Bakewell (U.D. & R.D.)	
	Basford (R.D.)	
	Belper (U.D.) and (R.D.)	J. R. Birks.
	Blackwell (R.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Bolsover (U.D.)	
	Bonsall (U.D.)	
	Buxton (Borough)	
	Chapel-en-le-Frith (R.D.)	
	Chesterfield (Borough)	
	,, (R.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.; W. S. Pattinson.
	Clay Cross (U.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Clown (R.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Derby (C.B.)	E. H. Bennett.
	Glossop (Borough)	J. Booth.
	Glossop Dale (R.D.)	
	Hartshorne and Seals (R.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Hayfield (R.D.)	
	Heanor (U.D.)	
	Ilkeston (Borough)	
	Matlocks (U.D.)	
	New Mills (U.D.)	
	North Darley (U.D.)	
	Norton (R.D.)	C. K. Baker, F.I.C.; W. S. Pattinson.
	Repton (R.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
	Ripley (U.D.)	
	Shardlow (R.D.)	
	South Darley (U.D.)	
	Swadlincote (U.D.)	
	Warsop (U.D.)	E. Templeman.
	Wirksworth (U.D.)	J. White, F.I.C.; A. Barraclough, B.Sc. (Lond.), F.I.C.
DEVONSHIRE	Budleigh Salterton (U.D.)	G. W. Slatter, A.R.C.S., F.I.C.
	Crediton (U.D.)	F. Johns.
	Exeter (City)	E. M. Foster.
	Paignton (U.D.)	G. W. Slatter, A.R.C.S., F.I.C.
	Plymouth (C.B.)	R. C. Weekes; J. Grayston.
	Teignmouth (U.D.)	G. W. Slatter, A.R.C.S., F.I.C.

COUNTY.		GAS EXAMINER.
DORSETSHIRE ..	Portland (U.D.)	G. H. Hamilton.
	Swanage (U.D.)	C. H. Woodward.
DURHAM ..	Barnard Castle (U.D.)	A. Scholes, F.I.C.
	Benfieldside (U.D.)	T. Hutton.
	Consett (U.D.)	
	Hebburn (U.D.)	J. T. Dunn, D.Sc. (Dun.), F.I.C.
	Houghton-le-Spring (U.D.)	V. J. Hunter.
	Jarrow (Borough)	J. T. Dunn, D.Sc. (Dun.), F.I.C.
	Leadgate (U.D.)	T. Hutton.
	South Shields (C.B.)	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
	Stockton-on-Tees (Borough)	A. Scholes, F.I.C.
	West Hartlepool (Borough)	A. Glendenning; H. S. Wood.
ESSEX	Barking Town (U.D.)	H. P. Clark.
	Billericay (R.D.)	Leo Taylor, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Braintree (U.D. & R.D.)	S. Fleminger.
	Brentwood (U.D.)	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.), F.I.C.
	Chelmsford (R.D.)	Leo Taylor, F.I.C.
	Colchester (Borough)	H. Collins.
	East Ham (C.B.)	C. Kear Colwell, B.A.; J. F. H. Gilbard, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Epping (U.D.) ..	S. Fleminger.
	,, (R.D.) ..	J. W. Heath; W. J. Green, B.Sc.; S. Fleminger.
	Frinton-on-Sea (U.D.)	S. Fleminger.
	Grays Thurrock (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Halstead (U.D. and R.D.)	S. Fleminger.
	Hornchurch (U.D.)	
	Ilford (Borough)	C. Kear Colwell, B.A.
	Ongar (R.D.) ..	S. Fleminger.
	Orsett (R.D.) ..	H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Rochford (R.D.)	
	Romford (U.D.)	S. Fleminger.
	,, (R.D.)	H. P. Clark; Leo Taylor, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger.
	Saffron Walden (Borough)	S. Fleminger.
	Shoeburyness (U.D.)	Leo Taylor, F.I.C.
	Southend-on-Sea (C.B.)	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.), F.I.C.

COUNTY.		GAS EXAMINER.
ESSEX—*continued.*		
	Stansted (R.D.)	J. W. Heath; W. J. Green, B.Sc.
	Tendring (R.D.)	S. Fleminger.
	Tilbury (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Walthamstow (Borough)	Leo Taylor, F.I.C.
	Walton on-the Naze (U.D.)	S. Fleminger.
	West Ham (C.B.)	C. Kear Colwell, B.A.; H. D. G. Holt, M.A. (Cantab.), A.I.C.
GLOUCESTERSHIRE	Bristol (City and C.B.)	E. Russell, F.I.C.
	Charlton Kings (U.D.) ..	K. Wilson.
	Cheltenham (Borough & R.D.)	
	Cirencester (U.D.)	R. H. Ellis, F.I.C.
	Gloucester (City & C.B.)	
	Nailsworth (U.D.)	
	Stroud (U.D. & R.D.)	
	Winchcombe (R.D.)	K. Wilson.
HAMPSHIRE ..	Aldershot (Borough)	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.) F.I.C.
	Basingstoke (Borough)	W. H. Skinner.
	Bournemouth (C.B.)	C. H. Woodward; C. Coffin.
	Eastleigh and Bishopstoke (U.D.)	F. G. Lee.
	Fareham (U.D.)	G. A. Pickering.
	Farnborough (U.D.) ..	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.), F.I.C.
	Fleet (U.D.) ..	
	Gosport (Borough)	G. A. Pickering.
	Havant (U.D.)	
	Petersfield (U.D.)	S. Fleminger.
	Portsmouth (City & C.B.)	G. A. Pickering; F. A. Parks.
	Southampton (C.B.)	S. Emsley, B.Sc. (Vict.), F.I.C.
	Winchester (City)	S. Fleminger.
HEREFORDSHIRE	Hereford (City & R.D.)	A. C. Saxby.
HERTFORDSHIRE	Barnet (U.D. & R.D.)	J. W. Heath; W. J. Green, B.Sc.
	Bishops Stortford (U.D.) ..	
	Berkhamsted (R.D.) ..	

COUNTY.		GAS EXAMINER.
Hertfordshire—*continued.*		
	Bushey (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.; J. W. Heath; W. J. Green, B.Sc.
	Cheshunt (U.D.)	J. W. Heath; W. J. Green, B.Sc.
	Chorleywood (U.D.)	
	East Barnet Valley (U.D.)	J. W. Heath; W. J. Green, B.Sc.; A. J. C. Lickorish, F.I.C.
	Great Berkhamsted (U.D.)	J. W. Heath; W. J. Green, B.Sc.
	Hadham (R.D.)	
	Harpenden (U.D.)	
	Hatfield (R.D.)	
	Hemel Hempsted (Borough & R.D.)	
	Hertford (Borough & R.D.)	
	Hitchin (U.D. & R.D.)	
	Hoddesdon (U.D.)	
	Rickmansworth (U.D.)	
	St. Albans (Borough) & & R.D.)	
	Sawbridgeworth (U.D.)	
	Ware (U.D. & R.D.)	
	Watford (Borough & R.D.)	
	,, (R.D.)	H. D. G. Holt, M.A. (Cantab.). A.I.C.
	Welwyn (R.D.)	J. W. Heath; W. J. Green, B.Sc.
Huntingdonshire	St. Ives (Borough & R.D.)	G. G. Yeandle.
Isle of Ely	Ely (U.D.)	L. F. Osmonde.
Kent	Ashford (U.D.)	E. M. Hawkins, F.I.C.
	Bexley (U.D.)	R. C. Wild, F.I.C.
	Blean (R.D.)	E. M. Hawkins, F.I.C.
	Bridge (R.D.)	
	Broadstairs and St. Peters (U.D.)	E. M. Hawkins, F.I.C.; C. C. Roberts, M.A. (Cantab.), F.I.C.
	Bromley (Borough & R.D.)	S. Fleminger.
	Canterbury (City & C.B.)	E. M. Hawkins, F.I.C.
	Cheriton (U.D).	
	Chislehurst (U.D.)	S. Fleminger.
	Cranbrook (R.D.)	J. Hudson.
	Crayford (U.D.)	R. C. Wild, F.I.C.
	Dartford (R.D. & U.D.)	

COUNTY.		GAS EXAMINER.
KENT—*continued.*		
	Deal (Borough)	T. C. Golder.
	Dover (Borough & R.D.)	E. M. Hawkins, F.I.C.; C. C. Roberts, M.A. (Cantab.), F.I.C.
	East Ashford (R.D.)	E. M. Hawkins, F.I.C.
	Eastry (R.D.)	
	Elham (R.D.)	
	Erith (U.D.)	R. C. Wild, F.I.C.
	Faversham (Borough)	E. Hutchinson.
	,, (R.D.)	E. M. Hawkins, F.I.C.; E. Hutchinson.
	Folkestone (Borough)	E. M. Hawkins, F.I.C.; C. C. Roberts, M.A. (Cantab.), F.I.C.
	Gillingham (Borough)	S. Fleminger.
	Gravesend (Borough)	
	Herne Bay (U.D.)	E. M. Hawkins, F.I.C.
	Hythe (Borough)	
	Isle of Thanet (R.D.)	E. M. Hawkins, F.I.C.; C. C. Roberts, M.A. (Cantab.), F.I.C.
	Maidstone (R.D.)	J. Hudson.
	Malling (R.D.)	
	Margate (Borough)	E. M. Hawkins, F.I.C.
	Milton (R.D.)	
	Northfleet (U.D.)	S. Fleminger.
	Queenborough (Borough)	W. P. Puddicombe.
	Ramsgate (Borough)	E. M. Hawkins, F.I.C.
	Sandwich (Borough)	
	Sevenoaks (U.D.)	S. Fleminger.
	,, (R.D.)	J. Hudson; S. Fleminger.
	Sheerness (U.D.)	W. P. Puddicombe.
	Sheppey (R.D.)	
	Sidcup (U.D.)	S. Fleminger.
	Sittingbourne & Milton (U.D.)	E. M. Hawkins, F.I.C.; S. V. Heaps.
	Southborough (U.D.)	J. Hudson.
	Strood (R.D.)	S. Fleminger; J. Hudson.
	Swanscombe (U.D.)	S. Fleminger.
	Tonbridge (R.D.)	J. Hudson.
	Tunbridge Wells (Borough)	
	Wrotham (U.D.)	
LANCASHIRE	Accrington (Borough)	J. Booth.
	Ashton-in-Makerfield (U.D.)	
	Ashton-under-Lyne (Borough)	R. Sheard.

COUNTY.		GAS EXAMINER.
LANCASHIRE—*continued.*		
	Aspull (U.D.)	J. A. Gray.
	Atherton (U.D.)	J. Booth.
	Bacup (Borough)	
	Barrowford	
	Barrow-in-Furness (C.B.)	A. W. McLaren, A.I.C.
	Barton-upon-Irwell (R.D.)	J. Booth.
	Blackburn (C.B. & R.D.)	
	Blackrod (U.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Brierfield (U.D.)	J. Booth.
	Burnley (R.D.)	
	Bury (R.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; J. Booth; S. Shanks.
	,, (C.B.)	J. Booth.
	Chorley (R.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Church (U.D.)	J. Booth.
	Clayton-le-Moors (U.D.)	
	Clitheroe (Borough & R.D.)	
	Colne (Borough)	
	Darwen (Borough)	
	Eccles (Borough)	A. F. Edwards; J. Booth.
	Farnworth (U.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Fleetwood (U.D.)	H. H. Wallace, B.Sc.
	Formby (U.D.)	H. J. Evans, B.Sc. (Wales), F.I.C.
	Golborne (U.D.)	W. T. Molyneux.
	Grange (U.D.)	G. Calderbank.
	Great Harwood (U.D.)	J. Booth.
	Haslingden (Borough)	S. N. Brown.
	Haydock (U.D.)	J. A. Gray.
	Hindley (U.D.)	
	Hurst (U.D.)	R. Sheard.
	Ince-in-Makerfield (U.D.)	J. A. Gray.
	Irlam (U.D.)	J. Booth.
	Kearsley (U.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Kirkham (U.D.)	A. K. Collinge.
	Lancaster (Borough)	G. Walker.
	Lathom and Burscough (U.D.)	J. H. Brearley; J. E. Walsh, B.Sc.
	Littleborough (U.D.)	F. Farnhill, B.Sc.

COUNTY.		GAS EXAMINER.
LANCASHIRE—*continued.*		
	Little Hulton (U.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Little Lever (U.D.)	J. Booth.
	Liverpool (City & C.B.)	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.
	Manchester (City & C.B.)	J. Booth; S. Hill; S. Carrington.
	Morecambe & Heysham (Borough)	G. Walker.
	Nelson (Borough)	J. Booth.
	Oldham (C.B.)	J. Slate, B.Sc. (Vict.), A.I.C.; F. C. Lee.
	Ormskirk (U.D.)	J. H. Brearley; J. E. Walsh, B.Sc.
	Orrell (U.D.)	J. A. Gray.
	Oswaldtwistle (U.D.)	J. Booth.
	Padiham (U.D.)	
	Poulton-le-Fylde (U.D.)	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
	Preston (Borough)	G. J. Gibbs.
	Prestwich (U.D.)	J. Booth.
	Radcliffe (U.D.)	
	Ramsbottom (U.D.)	
	Rawtenstall (Borough)	
	Rishton (U.D.)	
	Salford (C.B.)	J. Booth; A. F. Edwards.
	Southport (C.B.)	J. H. Brearley; J. E. Walsh, B.Sc.
	St. Helens (C.B.)	J. A. Gray.
	Standish-with-Langtree (U.D.)	
	Stretford (U.D.)	J. Booth.
	Swinton and Pendlebury (U.D.)	A. F. Edwards.
	Thornton (U.D.)	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
	Tottington (U.D.)	J. Booth.
	Trawden (U.D.)	
	Ulverston (U.D. & R.D.)	G. Calderbank.
	Upholland (U.D.)	J. A. Gray.
	Urmston (U.D.)	J. Booth.
	Westhoughton (U.D.)	J. Stafford, M.Sc. (Manc.), A.I.C.; S. Shanks.
	Whiston (R.D.)	J. Booth; J. A. Gray.
	Whitefield (U.D.)	H. T. Thorpe.
	Wigan (C.B. & R.D.)	J. A. Gray.
	Worsley (U.D.)	J. Booth.

COUNTY.		GAS EXAMINER.
Leicestershire	Ashby-le-la-Zouch (R.D.)	J. E. Harris.
	Barrow-on-Soar (R.D.)	
	Billesdon (R.D.)	
	Blaby (R.D.)	
	Castle Donington (R.D.)	
	Coalville (U.D.)	
	Hinckley (U.D. & R.D.)	
	Loughborough (Borough)	
	Market Bosworth (R.D.)	
	Market Harboro' (R.D.)	
	Melton Mowbray (U.D. & R.D.)	
	Quorndon (U.D.)	
	Shepshed (U.D.)	
	Thurmaston (U.D.)	
	Wigston Magna (U.D.)	
Lincolnshire (Kesteven)	Bourne (U.D.)	C. P. Matthews, M.A., B.Sc. (Lond.), F.I.C.
(Lindsey)	Brigg (U.D.)	J. A. Foster, F.I.C.
	Cleethorpes (U.D.)	
	Glanford Brigg (R.D.)	
	Grimsby (C.B.)	
London	(*See* pp. 64, 65.)	
Middlesex	Acton (Borough)	F. F. Shelley, F.I.C.; F. Robbins.
	Brentford (U.D.)	
	Chiswick (U.D.)	
	Ealing (Borough)	
	Edmonton (U.D.)	A. E. Brown, B.Sc. (Lond.), F.I.C.; A. J. C. Lickorish, F.I.C.; S. Fleminger.
	Enfield (U.D.)	A. E. Brown, B.Sc. (Lond.), F.I.C.; A. J. C. Lickorish, F.I.C.; S. Fleminger; J. W. Heath; W. J. Green, B.Sc.
	Feltham (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Finchley (U.D.)	A. J. C. Lickorish, F.I.C.; T. H. Norris, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger; J. W. Heath; W. J. Green, B.Sc.
	Friern Barnet (U.D.)	A. J. C. Lickorish, F.I.C.; S. Fleminger; J. W. Heath; W. J. Green, B.Sc.

COUNTY.		GAS EXAMINER.
MIDDLESEX—*continued.*		
	Greenford (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Hampton (U.D.)	G. S. Sayner; F. Robbins.
	Hampton Wick (U.D.) ..	
	Hanwell (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Harrow-on-the-Hill (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger.
	Hayes (U.D.) ..	F. F. Shelley, F.I.C.; F. Robbins; G. S. Sayner.
	Hendon (U.D. & R.D.)	T. H. Norris, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger; J. W. Heath; W. J. Green, B.Sc.
	Heston and Isleworth (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Hornsey (Borough)	A. J. C. Lickorish, F.I.C.; S. Fleminger.
	Kingsbury ..	T. H. Norris, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger.
	Ruislip-Northwood (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger.
	Southall-Norwood (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Southgate (U.D.)	A. J. C. Lickorish, F.I.C.; S. Fleminger; A. E. Brown, B.Sc. (Lond.), F.I.C.
	South Mimms (R.D.)	J. W. Heath; W. J. Green, B.Sc.
	Staines (U.D.) ..	G. S. Sayner; F. Robbins.
	,, (R.D.) ..	G. S. Sayner; S. Fleminger.
	Sunbury (U.D.)	F. F. Shelley, F.I.C.; F. Robbins.
	Teddington (U.D.)	G. S. Sayner; F. Robbins.
	Tottenham (U.D.)	A. E. Brown, B.Sc. (Lond.), F.I.C.; S. Fleminger.
	Twickenham (Borough)	F. F. Shelley, F.I.C.; F. Robbins.
	Uxbridge (U.D.)	G. S. Sayner; F. Robbins.
	,, (R.D.)	H. D. G. Holt, M.A. (Cantab.); A.I.C.; S. Fleminger.
	Wealdstone (U.D.)	H. D. G. Holt, M.A. (Cantab.), A.I.C.; S. Fleminger.
	Wembley (U.D.)	
	Willesden (U.D.)	T. H. Norris, F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Wood Green (U.D.)	A. E. Brown, B.Sc. (Lond.), F.I.C.; A. J. C. Lickorish, F.I.C.; S. Fleminger.
	Yiewsley (U.D.)	G. S. Sayner; F. Robbins.
MONMOUTHSHIRE	Bedwellty (U.D.)	H. L. Molyneux.
	Blaenavon (U.D.)	J. Mogford.
	Chepstow (U.D.)	
	Newport (C.B.)	R. J. Hayes.

COUNTY.		GAS EXAMINER.
NORFOLK	Great Yarmouth (C.B.)	S. P. Thompson.
	Norwich (City & C.B.)	W. Lincolne Sutton, F.I.C.
	Sheringham (U.D.)	F. H. Smith.
	Swaffham (U.D.)	C. Frobisher.
NORTHAMPTONSHIRE	Brackley (R.D.)	C. G. W. Kent, B.A.
	Brixworth (R.D.)	
	Daventry (R.D.)	
	Hardingstone (R.D.)	
	Higham Ferrers (Borough)	
	Irthlingborough (U.D.)	
	Kettering (U.D.)	W. A. Walker.
	Northampton (C.B. & R.D.)	C. G. W. Kent, B.A.
	Peterborough (City)	W. Elborne, M.A.
	Raunds (U.D.)	C. G. W. Kent, B.A.
	Rothwell (U.D.)	
	Rushden (U.D.)	
	Thrapston (R.D.)	
	Wellingborough (U.D. & R.D.)	
NORTHUMBERLAND	Alnwick (U.D.)	A. C. Michie, D.Sc. (Aberd.), F.I.C.
	Earsdon (U.D.)	H. D. Smith.
	Hexham (U.D.)	W. G. Landale.
	Seaton Delaval (U.D.)	H. D. Smith.
	Tynemouth (C.B.)	
	Whitley and Monkseaton (U.D.)	
NOTTINGHAMSHIRE	Arnold (U.D.)	E. Templeman; W. H. Jarvis; A. E. Crabtree.
	Basford (R.D.)	
	Bingham (R.D.)	
	East Retford (Borough)	A. E. Crabtree.
	Eastwood (U.D.)	E. Templeman; W. H. Jarvis; A. E. Crabtree.
	Hucknall (U.D.)	
	Kirkby-in-Ashfield (U.D.)	
	Mansfield (Borough)	E. Templeman; W. H. Jarvis; F. Strugnell; A. E. Crabtree.
	Newark (R.D.)	E. Templeman; W. H. Jarvis; A. E. Crabtree.
	Nottingham (C.B.)	W. Derrick, A.I.C.
	Retford (R.D.)	E. Templeman; W. H. Jarvis; A. E. Crabtree.
	Skegby (R.D.)	
	Southwell (R.D.)	
	Stapleford (R.D.)	
	Sutton-in-Ashfield (U.D.)	
	Worksop (U.D.)	

COUNTY.		GAS EXAMINER.
OXFORDSHIRE	Banbury (Borough)	W. H. Dawkins.
	Bicester (U.D.)	H. A. Coombs.
	Henley (Borough)	F. C. Uren.
	Oxford (City & C.B.)	J. F. Richardson, M.A.
RUTLAND	Oakham (U.D. & R.D.)	C. G. W. Kent, B.A.
SALOP	Ludlow (Borough)	A. E. White, B.A., B.Sc.
	Market Drayton (U.D.)	J. Booth.
	Oakengates (U.D.)	M. S. Lee.
	Shrewsbury (Borough)	A. E. White, B.A., B.Sc.
	Wellington (U.D.)	W. Walker.
	Whitchurch (U.D.)	M. W. Sowden.
SOMERSET	Bath (City & C.B.)	H. F. Barke, F.I.C.
	Clevedon (U.D.)..	I. J. Leach.
	Frome (U.D.) ..	L. Slaughter.
	Wells (City) ..	R. T. Stewart.
STAFFORDSHIRE	Brierley Hill (U.D.)	H. J. Parker.
	Cheadle (R.D.) ..	T. Saint.
	Smethwick (C.B.)	V. S. George.
	Uttoxeter (U.D.)	T. Saint.
SUFFOLK (East)	Felixstowe (U.D.)	H. N. Ransome, B.Sc.
	Ipswich (C.B.) ..	E. McLaughlan.
	Lowestoft (Borough)	W. Lincolne Sutton, F.I.C.
SURREY ..	Barnes (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Beddington and Wallington (U.D.)	F. W. MacMahon.
	Carshalton (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; F. W. MacMahon.
	Caterham (U.D.)	F. W. MacMahon.
	Chertsey (U.D.)	S. Fleminger.
	,, (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. Fleminger; G. S. Sayner; F. Robbins; C. Gray.
	Coulsdon and Purley (U.D.)	F. W. MacMahon.
	Croydon (C.B.) ..	
	Dorking (U.D. & R.D.)	S. Fleminger.
	East and West Molesey (U.D.)	G. S. Sayner; F. Robbins.
	Egham (U.D.) ..	G. S. Sayner; F. Robbins; S. Fleminger.
	Epsom (U.D.) ..	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	,, (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. Fleminger; H. D. G. Holt, M.A. (Cantab.), A.I.C.

COUNTY.		GAS EXAMINER.
SURREY—*continued.*		
	Esher and the Dittons (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; H. A. Gibson.
	Farnham (U.D.)	S. Fleminger.
	,, (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. Fleminger.
	Frimley (U.D.) ..	Leo Taylor, F.I.C.; R. H. Porteous.
	Godalming (Borough)	G. B. Hartfree.
	Godstone (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; F. W. MacMahon.
	Guildford (Borough)	S. Fleminger.
	,, (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. Fleminger.
	Ham (U.D.) ..	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Hambledon (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. Fleminger; G. B. Hartfree.
	Kingston-upon-Thames (Borough)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Leatherhead (U.D.)	S. Fleminger.
	Maldens and Coombe (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Merton and Morden (U.D.)	
	Mitcham (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; H. D. G. Holt, M.A. (Cantab.), A.I.C.
	Reigate (Borough)	S. Fleminger.
	,, (R.D.) ..	S. A. Woodhead, D.Sc. (Dun.), F.I.C.; F. W. MacMahon; S. Fleminger.
	Richmond (Borough) ..	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Surbiton (U.D.)	
	Sutton & Cheam (U.D.)	
	Weybridge (U.D.)	S. Fleminger.
	Wimbledon (Borough)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Windlesham (U.D.)	S. Fleminger; C. Gray.
	Woking (U.D.) ..	G. N. Huntly., B.Sc. (Lond),. A.R.C.S., F.I.C.
SUSSEX (East) ..	Battle (U.D.) ..	E. M. Hawkins, F.I.C.
	Bexhill (Borough)	S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	Brighton (C.B.)	H. Webster.
	Burgess Hill (U.D.)	W. E. Hancock.
	Chailey (R.D.) ..	S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	Cuckfield (R.D.)	
	Eastbourne (C.B. & R.D.) ..	L. Roseveare.

COUNTY.		GAS EXAMINER.
SUSSEX—*continued*.	East Grinstead (R.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	,, (U.D.)	G. N. Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Hailsham (R.D.)	S. A. Woodhead, D.Sc. (Dun.), F.I.C.; L. Roseveare.
	Hastings (C.B.)	E. M. Hawkins, F.I.C.
	,, (R.D.)	S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	Haywards Heath (U.D.)	S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	Lewes (Borough)	
	Newhaven (R.D.)	
	Portslade-by-Sea (U.D.)	H. Webster.
	Seaford (U.D.)	S. A. Woodhead, D.Sc. (Dun.), F.I.C.
	Ticehurst (R.D.)	
	Uckfield (U.D. & R.D.)	
(West)	Bognor Regis (U.D.)	S. Fleminger.
	East Preston (R.D.)	
	Horsham (U.D. & R.D.)	
	Littlehampton U.D.)	
	Midhurst (R.D.)	
	Steyning West (R.D.)	
	Thakeham (R.D.)	
	Westhampnett (R.D.)	
	Worthing (Borough)	A. R. Tipling.
WARWICKSHIRE	Kenilworth (U.D.)	S. Douglas.
	Leamington Spa (Borough)	C. T. Freeman, M.A.
	Nuneaton (Borough)	H. K. Howarth, M.Sc.
	Rugby (U.D.)	W. H. Spicer.
	Warwick (Borough)	R. Wormell.
WESTMORLAND	Kendal (Borough)	G. Walker.
	South Westmorland (R.D.)	
	West Ward (R.D.)	
	Windermere(U.D.)	
WILTSHIRE	Bradford on-Avon (R.D.)	H. F. Barke, F.I.C.
	Chippenham (Borough & R.D.)	
	Cricklade and Wootton Bassett (R.D.)	

COUNTY.		GAS EXAMINER.
WILTSHIRE—*continued.*		
	Highworth (R.D.)	H. F. Barke, F.I.C.
	Marlborough (Borough & R.D.	
	Melksham (R.D.)	
	New Sarum (City)	D. Thornton, M.A., D.P.H.
	Swindon (Borough)	H. F. Barke, F.I.C.
	Westbury and Whorwellsdown (R.D.)	
WORCESTERSHIRE	Bromsgrove (U.D. & R.D.)	T. E. Morris.
	Droitwich (R.D.)	
	Dudley (C.B.) ..	I. J. Jupp.
	Evesham (Borough)	T. E. Morris.
	Feckenham (R.D.)	
	Halesowen (U.D. & R.D.) ..	
	Kidderminster (R.D.) ..	
	,, (Borough)	J. Hawcroft.
	Lye and Wollescote (U.D.) ..	T. E. Morris.
	Martley (R.D.) ..	
	North Bromsgrove (U.D.)	
	Oldbury (U.D.) ..	
	Pershore (R.D.)	
	Redditch (U.D.)	
	Stourport (U.D.)	
	Worcester (City & C.B.)	W. R. Matthews.
YORKSHIRE .. (East Riding)	Beverley (Borough & R.D.)	J. Young, jnr.
	Bridlington (Borough)	H. Royal Dawson, A.I.C.
	Escrick (R.D.) ..	J. Evans, F.I.C.
	Hessle (U.D.) ..	W. Coulson.
	Sculcoates (R.D.)	
	York (City & C.B.)	J. Evans, F.I.C.; Archibald O. Jones, M.A. (Oxon.), F.I.C.
(North Riding)	Guisborough (U.D.)	E. Owston.
	Richmond (Borough)	J. Booth.
	Scarborough (Borough)	E. M. Chaplin, F.I.C.
	Whitby (U.D.)	J. R. Seward.
(West Riding)	Adwick-le-Street (U.D.)	J. T. Storrow.
	Baildon (U.D.) ..	J. Booth.
	Barkisland (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
	Barnoldswick (U.D.)	J. Slate, B.Sc., A.I.C.; F. C. Lee.

COUNTY.	GAS EXAMINER.
YORKS.	
West Riding—*continued.*	
Barnsley (C.B.)	J. Evans, F.I.C.
Bentley-with-Arksey (U.D.)	J. T. Storrow.
Bingley (U.D.)	J. B. Balmforth; J. Slate, B.Sc., A.I.C.; F. C. Lee.
Birkenshaw (U.D.)	J. Booth.
Bishopthorpe (R.D.)	J. Evans, F.I.C.
Brighouse (Borough)	J. Booth.
Calverley (U.D.)	A. L. Williams, F.I.C.; J. Firth, A.I.C.
Castleford (U.D.)	C. P. Finn, B.Sc. (Vict.), M.Sc. (Leeds), F.I.C.
Conisborough (U.D.)	
Darfield (U.D.)	J. Booth.
Dewsbury (C.B.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.
Doncaster (R.D.)	J. T. Storrow; S. Hill.
Earby (U.D.)	J. Booth.
Elland (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
Featherstone (U.D.)	E. M. Chaplin, Ph. D. (Würzburg), F.I.C.
Great Ouseburn (R.D.)	J. Evans, F.I.C.
Greetland (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
Goole (U.D. & R.D.)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
Halifax (C.B.)	H. T. Lea, M.Sc. (Birm.), F.I.C.
,, (R.D.)	J. Booth.
Harrogate (Borough)	A. Woodmansey, M.Sc. (Leeds), A.I.C.
Haworth (U.D.)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
Hebden Bridge (U.D.)	J. Booth.
Heckmondwike (U.D.)	
Hemsworth (R.D.)	E. M. Chaplin, Ph.D. (Würzburg,) F.I.C.; J. Booth.
Honley (U.D.)	J. Booth.
Horbury (U.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.
Horsforth (U.D.)	A. L. Williams, F.I.C.; J. Firth, A.I.C.
Hunslet (R.D.)	J. Firth, A.I.C.; J. Booth.
Hunsworth (U.D.)	J. Booth.
Ilkley (U.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.
Keighley (Borough)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
,, (R.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.; J. Slate, B.Sc., A.I.C.; F. C. Lee.
Kiveton Park (R.D.)	W. S. Pattinson.

COUNTY.		GAS EXAMINER.
Yorks.		
West Riding—*continued*		
	Knaresborough (R.D.)	A. Woodmansey, M.Sc. (Leeds), A.I.C.
	Knottingley (U.D.)	G. J. Laverick.
	Leeds (City & C.B.)	J. Firth, A.I.C.; H. Lobley; J. W. Roebuck.
	Marsden (U.D.) . .	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Meltham (U.D.)	
	Mirfield (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
	Mytholmroyd (U.D.)	J. Booth.
	Ossett (Borough)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.
	Otley (U.D.)	
	Pateley Bridge (R.D.)	A. Woodmansey, M.Sc. (Leeds), A.I.C.
	Penistone (U.D. & R.D.)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Pontefract (R.D.)	C. P. Finn, B.Sc. (Vict. & Leeds), F.I.C.; S. Hill.
	Pudsey (Borough)	H. H. Parker.
	Ripon (Borough & R.D.) . .	J. Booth.
	Rotherham (C.B)	J. Evans, F.I.C.; Archibald O. Jones, M.A. (Oxon.), F.I.C.
	,, (R.D.)	W. S. Pattinson; J. Evans, F.I.C.; J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Rothwell (U.D.) . .	W. McD. Mackey, F.I.C.
	Saddleworth (U.D.)	J. Slate, B.Sc. (Vict.), A.I.C.; F. C. Lee.
	Sedbergh (R.D.)	J. Booth.
	Selby (U.D.) . .	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Settle (R.D.) . .	J. Booth.
	Sheffield (City & C.B.)	W. S. Pattinson.
	Shelley (U.D.) . .	L. G. Paul, Ph.D. (Tübingen), F.I.C.
	Shepley (U.D.) . .	
	Shipley (U.D.) . .	J. Booth; J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Silsden (U.D.) . .	J. Booth.
	Skipton (U.D.) . .	J. Booth.
	,, (R.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.; J. Booth; J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Southowram (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
	Sowerby (U.D.) . .	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Spenborough (U.D.)	J. Booth.
	Stainland (U.D.)	L. G. Paul, Ph.D. (Tübingen), F.I.C.
	Stanley (U.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.

COUNTY.		GAS EXAMINER.
YORKS.		
West Riding—*continued.*		
	Stocksbridge (U.D.)	W. Chaffey.
	Tadcaster (R.D.)	C. P. Finn, B.Sc. (Vict. & Leeds), F.I.C.; J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Thurlstone (U.D.)	J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Todmorden (R.D.)	J. Booth.
	Wakefield (City, C.B. & R.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.
	Wetherby (R.D.)	A. Woodmansey, M.Sc. (Leeds), A.I.C.; J. Slate, B.Sc., A.I.C.; F. C. Lee.
	Wharfedale (R.D.)	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.; J. Booth.
	Whitwood (U.D.)	C. P. Finn, B.Sc. (Vict.), M.Sc. (Leeds), F.I.C.
	Wombwell (U.D.)	J. Booth.
	Wortley (R.D.)	W. Chaffey.
	Worsborough (U.D.)	J. Evans, F.I.C.
	Yeadon (U.D.)	N. Houlden.

WALES.

BRECONSHIRE ..	Builth (U.D.) ..	T. V. Williams.
CAERNARVONSHIRE	Bangor (Borough)	F. G. Soper, D.Sc. (Wales), A.I.C.
	Caernarvon (Borough & R.D.) ..	
	Conway (Borough & R.D.) ..	
	Llandudno (U.D.)	
	Llanfairfechan (U.D.) ..	
	Ogwen (R.D.) ..	
	Penmaenmawr (U.D.) ..	
	Portmadoc (U.D.)	
	Pwllheli (Borough)	C. L. Roberts.
CARDIGANSHIRE	Aberystwyth (Borough)	T. Campbell James, M.A. (Cantab. D.Sc. (Wales), F.I.C.
CARMARTHENSHIRE	Llanelly (Borough)	G. Watkeys; J. H. Montgomery.
DENBIGHSHIRE ..	Abergele and Pensarn (U.D.)	A. T. Easom, B.Sc.
	Abergele (R.D.)	
	Colwyn Bay (U.D.)	J. B. C. Kershaw, F.I.C.
	Wrexham (Borough)	J. England.
FLINTSHIRE ..	Connah's Quay (U.D.)	F. Roberts.
	Flint (Borough)	J. Booth.
	Holywell (U.D.)	J. T. Morgan, B.Sc.

COUNTY.		GAS EXAMINER.
Glamorgan	Aberdare (U.D.)	I. A. Bryant.
	Barry (U.D.)	J. Mogford.
	Bridgend (U.D.)	
	Cardiff (R.D.)	
	,, (City, C.B. & R.D.)	J. H. Sugden, M.Sc. (Vict.), F.I.C.; D. E. Jones, M.Sc. (Wales), F.I.C.; R. H. Hicks.
	Cowbridge (R.D.)	J. Mogford.
	Gelligaer (U.D.)	H. L. Molyneux.
	Glyncorrwg (U.D.)	J. Mogford.
	Llantrisant and Llantwit Fardre (R.D.)	
	Maesteg (U.D.)	
	Merthyr Tydfil (Borough & R.D.)	J. H. Sugden, M.Sc. (Vict.), F.I.C.; D. E. Jones, M.Sc. (Wales), F.I.C.
	Mountain Ash (U.D.)	J. Mogford.
	Neath (Borough & R.D.)	
	Ogmore and Garw (U.D.)	
	Penybont (R.D.)	
	Pontardawe (R.D.)	
	Pontypridd (U.D.)	
	Porthcawl (U.D.)	
	Port Talbot (Borough)	
	Rhondda (U.D.)	
	Swansea (R.D.)	
	,, (C.B.)	F. Hibbert.
Merionethshire	Towyn (U.D.)	D. M. Williams.
Pembrokeshire	Fishguard (U.D.)	A. C. James.
	Pembroke (Borough)	P. Morgan.

SCOTLAND.

COUNTY.		GAS EXAMINER.
Angus	Arbroath (Burgh)	J. R. Kelly.
	,, (District)	W. A. Bertram.
	Carnoustie (Burgh)	W. A. Bertram.
	Dundee (City)	A. McR. Imrie.
	,, (District)	W. A. Bertram; A. McR. Imrie.
	Forfar (Burgh)	W. A. Bertram.
	Monifieth (Burgh)	W. A. Bertram.
Argyll	Dunoon (Burgh)	J. W. Biggart, F.I.C.
Ayrshire	Barassie (District Ward)	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Largs (Burgh)	
	Southwood (District Ward)	
	Troon (Burgh)	

County.		Gas Examiner.
Clackmannan	Alloa (Burgh)	G. H. Gemmell, F.I.C.; R. G. Thin, B.Sc. (Edin.), F.I.C.
	Alva (Burgh)	D. Anderson.
	Cambus (District)	G. H. Gemmell, F.I.C.; R. G. Thin, B.Sc. (Edin.), F.I.C.
	Clackmannan (District)	
	Fishcross (District)	
	Sauchie (District)	
	Tullibody (District)	
Dumbartonshire	Dumbarton (Burgh)	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
	Helensburgh (Burgh)	
	Western (District)	
East Lothian	Dunbar (Burgh)	W. Gordon.
	Eastern & Western District)	
	North Berwick (Burgh)	
Fifeshire	Buckhaven and Methil (Burgh)	R. Robertson.
	Burntisland (Burgh)	R. Robertson; W. Alexander; W. Gray.
	Dunfermline (Burgh)	R. Robertson; W. Alexander.
	Inverkeithing (Burgh)	
	Kirkcaldy (Burgh)	R. Robertson; W. Alexander; W. Gray.
	Leven (Burgh)	R. Robertson.
	St. Andrews (District)	R. Robertson; W. Alexander; W. Gray.
Lanarkshire	Airdrie (Burgh)	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
	Clydebank (Burgh)	
	Coatbridge (Burgh)	R. T. Thomson, F.I.C.
	Glasgow (City)	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
	Hamilton Road Drainage District	
	Lower Ward of County	J. Sorley, F.I.C.; R. T. Thomson, F.I.C.
	Middle Ward of County	J. Sorley, F.I.C. ; J. B. McKean, F.I.C.; R. T. Thomson, F.I.C.
	Milngavie (Burgh)	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
	Motherwell and Wishaw (Burgh)	
	Netherton (District)	
	Rutherglen (Burgh)	
Midlothian	Edinburgh (City)	W. Gordon.
	Musselburgh (Burgh)	A. S. Dodd, B.Sc. (Edin.), F.I.C.
Perthshire	Invergowrie (District)	A. McR. Imrie.

COUNTY.		GAS EXAMINERS.
RENFREWSHIRE	Greenock (Burgh)	R. T. Thomson, F.I.C.
	Rural Districts of County	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
STIRLINGSHIRE	Bridge of Allan (Burgh)	R. F. W. Blakey, A.R.T.C., A.I.C.
	Falkirk (Burgh)	R. J. McIntosh, M.A.
	Grangemouth (Burgh)	R. F. W. Blakey, A.R.T.C., A.I.C.
	Rural Districts of County	J. Sorley, F.I.C.; J. B. McKean, F.I.C.
	Stirling (Burgh)	J. Fyfe.

THE GEOLOGICAL SURVEY OF GREAT BRITAIN.

(28, Jermyn Street, London, S.W.1; 33, George Square, Edinburgh.)

The chemical work of the Geological Survey is carried out by the Government Chemist (*see* Government Laboratory below).

THE GOVERNMENT LABORATORY.

(Clement's Inn Passage, Strand, London, W.C.2.)

In 1911, the Government Laboratory was constituted an independent Department under the Treasury, with a separate Parliamentary Vote entitled "Government Chemist." It exists for the purpose of affording advice and assistance in matters involving chemical knowledge to the various Departments of State. No chemical work is accepted from private sources, but all work must be submitted by some Department of the Crown, or in accordance with Statutory provisions.

Historically, a Laboratory was established in 1843 at Somerset House in connection with the Inland Revenue Department with the object of checking the adulteration of tobacco. The scope of this Laboratory was gradually extended so as to embrace the analysis of almost every excisable commodity. The Custom House was also provided with a Laboratory in which wines, spirits, and other articles liable to duty on importation were examined. In 1894, the Laboratories at Somerset House and the Customs House were amalgamated under one Principal, and were thenceforward known as the Government Laboratory. The work of the Excise Branch of the Laboratory was transferred in 1897 from Somerset House to the present building in Clement's Inn Passage.

As other Government Departments sought and obtained the permission of the Treasury to avail themselves of the services of the Laboratory, this larger sphere of usefulness was gradually extended until at the present time the Laboratory undertakes work for nearly every Government Department.

Appointments.—Under the Sale of Food and Drugs (Adulteration) Act, power is given to Courts of Law to refer samples to the Government Chemist in cases of dispute. The Government Chemist is also Chief Agricultural Chemist for England and Scotland under the Fertilisers and Feeding Stuffs Act for referee purposes.

Duties.—The duties performed by the staff of the Government Laboratory include the analysis of samples in connection with the Assessment of Revenue and Drawback; of samples for the Admiralty and Air Board; the chemical work of the Geological Survey; the analysis of a very great variety of samples of stores supplied to Government Departments on tender and on contract; of milk, butter, cheese, and other agricultural produce for the Ministry of Agriculture and Fisheries, and of fertilisers, sheep-dips, etc., for the same Ministry; of samples referred by Magistrates under the Food and Drugs Acts; of samples received under the administration of Dangerous Drugs Act; of articles imported under the Safeguarding of Industries Act, and the Importation of Dyestuffs (Restriction) Act of samples in connection with silk duties; of sea water in connection with the investigations now being carried out by the Permanent International Council for the Exploration of the Sea; the recovery of radium from stores on behalf of the Disposal and Liquidation Commission; and certain investigations for the Department of Scientific and Industrial Research.

A considerable portion of the Department's activities is taken up in dealing with questions referred to the Government Chemist for advice, by Government Departments and by Parliamentary and Departmental Committees, and in conducting investigations when necessary in connection with such references. A Report on the work of the Laboratory is issued annually as a Stationery Office Publication.

The business of the Government Laboratory is carried on in the premises in Clement's Inn Passage, in the Branch Laboratories at the Custom House, London and Liverpool, at the Museum of Practical Geology, at the Army Supply Reserve Depôt, Deptford, and in Chemical Stations situated at various ports.

Personnel.—The permanent chemical staff of the Laboratory now consists of the Government Chemist, the Deputy Government Chemist, six Superintending Chemists, and thirty-nine Chemists, divided into two classes. These form the establishment of the Laboratory, and are all pensionable officers. Besides the permanent staff, over one hundred temporary assistants are employed in the Laboratory. This temporary staff is composed partly of Temporary Assistant Chemists and Temporary Laboratory Assistants for general work, appointed by the Government Chemist, and partly of Revenue assistants, lent by the Customs and Excise, who are engaged exclusively on work connected with the Revenue Service. Appointments to the Second Class of Chemists, the lowest grade of the establishment, are ordinarily made from chemists who possess the qualifications of the equivalent of at least a second class honours degree in chemistry, together with not less than two years' post graduate experience, i.e., at least of the standard for A.I.C., and who have served at least one year in the Department. They are chosen, normally from the grade of Temporary Assistants, by a Selection Board consisting of a Civil Service Commissioner, the Government Chemist, and an outside examiner on the results of a personal interview and of an examination in English.

The Temporary Assistant Chemists (non-established) are appointed by the Government Chemist, who has the assistance of a representative of the Civil Service Commissioners, and the President of the Institute of Chemistry. For these a qualification of at least the equivalent of a second class honours degree is required, with preferably some further experience.

STAFF OF THE GOVERNMENT LABORATORY.

Government Chemist.—Sir Robert Robertson, K.B.E., M.A., D.Sc., LL.D. (St. Andrews), F.I.C., F.R.S.

Deputy Government Chemist.—J. J. Fox, O.B.E., D.Sc., F.I.C.

Superintending Chemists.—A. More, A.R.C.S., A.R.T.C., F.I.C.; R. Rodger, F.I.C.; T. H. Bowles, F.I.C.; A. G. Francis, B.Sc., F.I.C.; F. S. Aumonier, B.Sc., F.I.C.; A. J. H. Gauge; F.I.C.

Chemists, Class 1.—P. J. Sageman, F.I.C.; A. E. Middleton; F. G. H. Tate; T. W. Harrison, B.Sc., F.I.C.; J. R. Nicholls, B.Sc., F.I.C.; J. E. Byles, B.Sc., F.I.C.; C. A. Adams, B.Sc., F.I.C.; F. R. Ennos, B.A., B.Sc., A.I.C.; A. T. Parsons, B.Sc., A.I.C.; G. F. Sheppard; A. H. Rheinlander, M.Sc., A.I.C.; E. H. Nurse, B.Sc., A.I.C.

Chemists, Class 2.—F. B. Burls, F.I.C.; J. Stephenson, B.Sc., A.I.C.; B. A. Ellis, M.A., A.I.C.; A. F. Weiss, B.Sc., A.I.C.; R. Sutcliffe, M.A., A.I.C.; J. King, F.I.C.; J. A. Heald, B.Sc., A.I.C.; J. W. Pooley, B.Sc., A.I.C.; S. A. Ashmore, B.Sc., A.I.C.; C. E. Barton, B.Sc.; P. M. Mooney, B.Sc., F.I.C.; G. Croft, M.Sc., A.I.C.; L. C. Nickolls, M.Sc., A.R.C.S., D.I.C., A.I.C.; R. H. Settle, B.A., A.I.C.; E. H. Williams, B.Sc., A.C.G.F.C., A.I.C.; P. McGregor, B.Sc., A.I.C.; B. E. Dixon, M.Sc., A.C.G.F.C., A.I.C.; J. F. Hirst, B.Sc., A.I.C.; J. R. Fraser, B.Sc., A.C.G.F.C., A.I.C.; E. H. Warren, B.A.; C. O. Harvey, B.Sc., A.R.C.S., A.I.C.; J. L. Buchan, B.Sc., A.I.C.; J. W. A. Woodley, B.Sc., A.I.C.; E. S. Hiscocks, M.Sc., A.I.C.; J. Longwell, M.Sc., A.I.C.; H. L. Bolton, A.I.C.; C. G. Daubney, M.Sc., A.I.C.

Temporary Assistant Chemists.—E. C. W. Maycock, B.Sc., A.I.C.; E. B. Parkes, M.Sc., A.I.C.; W. F. Waters, B.Sc., A.I.C.; C. R. Hoskins, B.Sc.; P. J. Hardwick, B.Sc.; J. Walkden, M.Sc., A.I.C.; L. G. Groves, B.Sc.; Miss E. G. Fell, B.Sc.; E. E. Penny, B.Sc.; C. F. M. Fryd, B.Sc., A.R.C.S.; D. A. Crighton, B.Sc.; E. Q. Laws, B.Sc., A.I.C.; C. H. Robins, B.Sc., A.I.C.; C. A. Macdonald, B.Sc.; H. G. Smith, Ph.D.; F. R. Johnson, B.Sc.; L. T. Heaysman, B.Sc., A.I.C.; A. A. W. Russell, B.A., B.Sc.; A. M. McLennan, B.Sc.; W. H. Templeton, B.Sc.; J. S. Wilson, B.Sc.; Miss E. M. Ryan, B.Sc.; H. Proom, B.Sc.; G. E. W. Sexton, B.Sc., A.I.C.; H. C. Gull, B.Sc.; D. I. Roberts, M.Sc.; S. F. Holder, B.Sc.; J. G. N. Gaskin, B.Sc., A.I.C.; A. N. Wilson, B.Sc.; N. H. Martin, B.Sc., A.I.C.; E. C. Harris, B.Sc., A.I.C.; Miss J. Cattermole, B.Sc.; R. O. Hall, B.Sc.

THE HOME OFFICE.

(Whitehall, London, S.W.1.)

Senior Official Analyst.—G. Roche Lynch, O.B.E., M.B., B.S., D.P.H., F.I.C., St. Mary's Hospital, Paddington, London, W.2.

Official Analyst.—J. H. Ryffel, B.Ch., F.I.C., Guy's Hospital, S.E.1.

Hon. Adviser on Petroleum.—J. S. S. Brame, C.B.E., F.I.C., Royal Naval College, Greenwich, London, S.E.10.

THE FACTORY DEPARTMENT.

This department is advised on chemical matters (such as those respecting pottery glazes, colours, enamels, dust, etc.) by the Government Laboratories; the following are consulted as Analysts of water and air, respectively:—Frank Scudder F.I.C., and W. J. A. Butterfield, M.A. (Oxon.), F.I.C.

INSPECTORS OF EXPLOSIVES.

Chief Inspector.—Major Sir Thomas Crozier.

Inspectors.—Bt. Lieut.-Col. R. A. Thomas, C.B.E.; H. E. Watts, M.B.E., Ph.D., F.I.C.; G. Harcourt Gibbs, B.Sc. (Lond.), A.I.C.

SANDSTONE INDUSTRY (SILICOSIS) SCHEME, 1929.

Proprietors of stone quarries and firms dealing with sandstone, or any similar material containing more than 50 per cent of silica (free and combined), are required to insure against liabilities under the Workmen's Compensation Act with regard to Silicosis.

The Acts and Statutory Rules and Orders relating to the matter are:—

(8 and 9 Geo. 5) Workmen's Compensation (Silicosis) Act, 1918.—An Act to provide for the payment of compensation in the case of workmen who suffer death or disablement or are suspended from employment owing to the disease known as fibroid phthisis or silicosis of the lungs. (Price 1d. net).

S. R. & O., 1919, No. 12.—Master and Servant. Workmen's Compensation (Silicosis) Act, 1918.—The Scheme of Compensation dated January 6th, 1919, made by the Secretary of State under the Workmen's Compensation (Silicosis) Act, 1918 (8 & 9 Geo. 5 c. 14), for the Refractories Industries. (Price 4d. net.)

S. R. & O., 1924, No. 41.—Master and Servant. Workmen's Compensation (Silicosis) Act, 1918.—Order of the Secretary of State, dated January 18, 1924, amending the scheme of Compensation for the Refractories Industries under the Workmen's Compensation (Silicosis) Act, 1918 (8 & 9 Geo. 5, c. 14). (Price 1d. net.)

S. R. & O., 1925, No. 79.—Master and Servant.—Workmen's Compensation (Silicosis) Acts, 1918 and 1924.—The Refractories Industries (Silicosis) Scheme, 1925, dated January 30, 1925, made by the Secretary of State under the Workmen's Compensation (Silicosis) Acts, 1918 (8 & 9 Geo. 5 c. 14) and 1924 (14 and 15 Geo. 5, c. 40). (Price 4d. net.)

S. R. & O., 1928, No. 975.—Master and Servant. Workmen's Compensation Act, 1925. The Various Industries (Silicosis) Scheme, 1928, dated December 11, 1928, made by the Secretary of State under the Workmen's Compensation Act, 1925 (15 & 16 Geo. 5, c. 84). (Price 3d. net.)

S. R. & O., 1929, No. 171.—Master and Servant. Workmen's Compensation Act, 1925. The Sandstone Industry (Silicosis) Scheme, 1929, dated March 18, 1929, made by the Secretary of State under the Workmen's Compensation Act, 1925 (15 and 16 Geo. 5, c. 84). (Price 5d. net.)

Paragraph 2 (3) (ii) of the Sandstone Industry (Silicosis) Scheme, 1929, provides, as follows:—

"Where an employer satisfies the Secretary of State by chemical analysis carried out in accordance with such conditions as may be prescribed that the sandstone got or manipulated at any mine, quarry or other premises does not contain more than 50 per cent silica (free and combined), the Scheme shall, as from such date as may be specified by the Secretary of State, cease to apply to any processes carried on at such mine, quarry or other premises on or in connection with the said stone, without prejudice, however, to any rights or liabilities which may have previously accrued under this Scheme."

With regard to the conditions for chemical analysis under the above paragraph, the Secretary of State has directed that the analysis for the determination of the percentage of silica (free and combined) in any sandstone shall be carried out in accordance with conditions specified by the Government Chemist, and the result shall be certified either by an analyst appointed by a local authority under the Food and Drugs (Adulteration) Act, 1928, or by an analyst approved by the Secretary of State.

The conditions specified by the Government Chemist are obtainable from the Home Office.

THE IMPERIAL INSTITUTE OF THE UNITED KINGDOM, THE COLONIES, AND INDIA.

(South Kensington, London, S.W.7.)

The Imperial Institute conducts investigations for the Dominion, Indian and Colonial Governments, chiefly relating to the composition and utilisation of raw materials, and also supplies information and advice respecting industrial development and tropical agriculture. Records of the work are published quarterly in the "Bulletin of the Imperial Institute."

The staff includes the following Chemists:—E. Goulding, D.Sc. (Lond.), F.I.C.; S. J. Johnstone, B.Sc. (Lond.), F.I.C.; J. R. Furlong, Ph.D. (Würzburg), A.I.C.; O. D. Roberts, F.I.C.; W. O. R. Wynn, F.I.C.; G. T. Bray, A.I.C.; F. Major, B.Sc. (Lond.), A.I.C.; H. T. Islip, B.Sc. (Lond.), A.I.C.; Miss R. C. Groves, M.Sc. (Birm.), A.I.C.; Miss H. Bennett, M.A. (Cantab.), B.Sc. (Lond.), A.I.C.; G. Martin, B.Sc. (Birm.), A.I.C.; W. S. Davey, B.Sc. (Lond.), A.I.C.; F. L. Elliott, F.I.C.; W. H. Bennett, B.Sc. (Lond.), A.I.C.; H. J. Holman, B.Sc. (Lond.), A.I.C.; L. Balmforth, B.Sc. (Lond.), F.I.C.

OFFICE OF THE HIGH COMMISSIONER FOR INDIA.

(India House, Aldwych, W.C.2.)

(*For appointments in the Indian Empire, see India, p.* 219.

Chemical work is performed at the India Store Department, Belvedere Road, London, S.E.1, with occasional reference to the

Government Laboratories. Metallurgical work is carried out partly at the India Store Department, and partly at the National Physical Laboratory.

Chemist.—T. A. Moore, A.I.C.

Assistant Chemists.—A. Farmbrough, A.I.C.; M. Priest, F.I.C.; G. Q. Khan.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE.

See addenda
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(Chelsea Gardens, London, S.W.1.)

(*Appointed by the Governing Body of the Institute.*)

Chemists.—Arthur Harden*, Ph.D. (Erlangen), D.Sc (Vict.), F.I.C., F.R.S.; Robert Robison, Ph.D. (Leipzig), D.Sc. (Lond.), F.I.C., F.R.S.

Hon. Assistants.—Sylvester S. Zilva, Ph.D. (Giessen), D.Sc. (Lond.), F.I.C.; Mrs. I. S. Maclean, D.Sc. (Lond.), F.I.C.

Research Scholar.—R. R. McLaughlin, Ph.D. (Toronto).

Biochemist (*Elstree, Herts.*).—W. T. J. Morgan, M.Sc., Ph.D. (Lond.), F.I.C.

* Professor of Biochemistry in University of London.

LONDON, THE CORPORATION OF THE CITY OF.

(Guildhall, London, E.C.1.)

Food and Drugs (*Adulteration*) *Act*, 1928.

Public Analyst.—A. J. C. Lickorish, F.I.C.

Metropolitan Gas Acts.

(City Gas Examiner's Office and Laboratory: 18, Lower Whitecross Street, London, E.C.1; 2 Testing Stations in other parts of the City.)

Superintending Gas Examiner.—George Hume.

Gas Examiners.—Frank Robbins; George Lorimer.

Petroleum Acts.

Consulting Adviser under the Petroleum Acts, and Examiner of Petroleum.—Robert Redwood.

THE LONDON COUNTY COUNCIL.

(County Hall, Westminster Bridge, London, S.E.1.)

CHEMICAL BRANCH OF THE PUBLIC HEALTH DEPARTMENT.

The work conducted at the Central Laboratories of the London County Council comprises the examination and analysis of all kinds of materials used in connection with the various branches of the Council's work, and of stores for the different departments of the Council, including food and drugs supplied to the Council's Hospitals, Schools and other Institutions; the statutory testing of petroleum under the Petroleum Acts; the conduct of special scientific inquiries; and advising generally on matters of a scientific character.

The selection of chemists for appointment on the permanent staff is made by the Council. Candidates for the position of Chemical Assistant must be British subjects and must have a degree in chemistry or equivalent diploma, such as that of the Institute of Chemistry, and must produce evidence of systematic training in chemistry and other branches of science. Officials in the service are usually selected for promotion to senior positions, as vacancies arise.

There are branch laboratories at the Sewage Outfall Works at Barking and Crossness and at the Greenwich Power Station, where analytical work and scientific investigations in connection with the treatment of sewage and its effect on the River Thames and in connection with electric power generation and the examination of fuel supplied to the Council are carried out.

CHEMICAL STAFF.

Chemist and Official Agricultural Analyst under the Fertilisers and Feeding Stuffs Act, 1926.—J. H. Coste, F.Inst.P., F.I.C.

Principal Assistant and Deputy Official Agricultural Analyst.—E. T. Shelbourn, F.I.C.

Senior Assistants.—E. R. Andrews, F.I.C.; J. W. H. Biggs W. E. F. Powney, F.I.C.

Assistants, Class 1 (*a*).—C. J. Regan, B.Sc. (Lond.), A.I.C.; E. T. Butler. *Class* 1 (*b*).—R. Parsons; J. E. Houlihan, B.Sc. (Lond.), A.I.C.; G. S. Clements, A.R.C.S., A.I.C.; S. G. Burgess, Ph.D. (Lond.), A.I.C.; C. M. Willcox, M.A. (Cantab.), B.Sc. (Lond.), A.I.C.

Temporary Assistants.—A. F. Green, B.Sc. (Lond.); C. A. Chaplin, B.Sc. (Lond.); F. W. Bush, B.Sc. (Lond.), A.I.C.; W. W. Taylor, B.Sc. (Lond.), A.I.C.; Miss K. W. Wilcox, M.Sc. (Lond.); R. H. Burns, B.Sc. (Lond.); G. J. Warren, M.Sc. (Lond.), A.I.C.

PUBLIC CONTROL DEPARTMENT.

(Gas Testing Section, County Hall, London, S.E.1.)

There are seventeen gas testing laboratories in different parts of the County of London where the calorific value, purity and pressure of the gas supply are determined daily and reported to the Council and to the gas companies.

Candidates for appointment as gas examiners are required to produce evidence of training in physics and chemistry, and to have a good knowledge of the apparatus and processes used for testing gas in the metropolis. They are subjected to a practical examination in gas testing before appointment. The possession of a professional qualification obtained by examination, such as that of the Institute of Chemistry, is taken into consideration in the selection of candidates for examination.

Inspecting Gas Examiner.—B. R. James, F.I.C.

Gas Examiners appointed by the Council.—H. Davis; B. H. Gerrans, F.I.C.; J. F. H. Gilbard, F.I.C.; G. Nevill Huntly, B.Sc. (Lond.), A.R.C.S., F.I.C.; A. W. Mitchell; M. Priest, F.I.C.; W. L. Aspinall; A. J. C. Lickorish, F.I.C.; R. A. Dibdin; S. Fleminger; J. F. F. Rowland, B.A., A.I.C.; P. J. Sageman, F.I.C.; G. W. Ellis, O.B.E., D.Sc. (Lond.), F.I.C.; N. Heaton, B.Sc.; T. W. Harrison, B.Sc. (Lond.), F.I.C.; C. K. Colwell, B.A.; A. E. Andrews, A.I.C.; C. R. Dow, M.Sc.; L. E. Campbell, M.Sc., Ph.D. (Lond.), F.I.C.; H. C. Cocks, Ph.D. (Lond.), A.I.C.; H. D. G. Holt, M.A., (Cantab.), A.I.C.; A. M. Bailey, F.I.C.; W. G. Brabyn, B.Sc.; A. S. Carlos, B.Sc. (Lond.), F.I.C.; F. E. Charlton, B.Sc.; N. E. Jones, B.Sc. (Lond.), A.I.C.; R. A. Jones, A.C.G.F.C., A.I.C.; C. J. Miller, Ph.D. (Lond.), A.I.C.; H. A. Parkes, B.Sc. (Birm.), A.I.C.

L.C.C. Educational Department.

(Victoria Embankment, London, E.C.4.)

The names of Teachers of Chemistry in Technical Institutes and Secondary Schools controlled by the London County Council are included among those mentioned on pp. 135-142 and pp. 184-190 respectively.

METROPOLITAN WATER BOARD

(Laboratory: 20, Nottingham Place, London, W.1.)

Metropolis Water Act, 1902

The Metropolitan Water Board was established, under the provisions of the Metropolis Water Act, 1902, to manage the supply of water within London and certain adjoining districts. The Board was established to acquire by purchase and to manage the undertakings of the metropolitan water companies and for other purposes connected therewith. The Board consists of members appointed by the London County Council, the Common Council of the City, and the Council of the City of Westminster, the Councils of the Metropolitan Boroughs, County Councils of Essex, Hertfordshire, Kent, Middlesex and Surrey, the Councils of certain surrounding boroughs and urban districts, the Conservators of the River Thames, and the Lee Conservancy Board. With a view to securing a supply of pure and wholesome water, Section 25 of the Act provides that the Water Board shall cause to be made chemical and bacteriological examinations of, and experiments as to the condition of the water to be supplied by them, and shall supply the staff, buildings, apparatus and plant required for enabling such examinations and experiments to be conducted efficiently. The results are required to be reported periodically to the Water Board and to the Ministry of Health. The Water Board is required to take and record such observations as may be required by the Ministry of Health.

The appointments on the Laboratory staff are made by the Board, and the Officers are required to give their whole time to the service of the Board.

Director of Water Examination.—Sir Alexander C. Houston, K.B.E., C.V.O., M.B., D.Sc. (Edin.).

Deputy Director of Water Examination and Chief Chemist.—R. B. Floris, F.I.C.

Senior Chemical Assistant.—D. B. Byles, B.Sc. (Lond.), F.I.C.

Chemical Assistant.—A. F. Girvan, B.Sc. (Lond.), A.I.C.

Senior Bacteriological Assistant.—J. I. Goodlet, A.I.C.

Bacteriological Assistant.—H. F. F. B. Fermor, A.I.C.

MINISTRY OF HEALTH.

For England and Wales: Whitehall, London, S.W.1.

Food and Drugs (Adulteration) Act, 1928.

Prior to the year 1860, legislation against adulteration dealt with only a few articles of food, and was enforced mainly for the benefit of Revenue. It was an offence at common law to adulterate food, but no provision was made for analysing samples, and action was seldom taken. In 1860, the "Adulteration of Foods Act," to prohibit the sale of adulterated articles of food and drink, was passed; it was extended to include drugs, by an amending Act in 1872. These Acts, however, were repealed by the "Sale of Food and Drugs Act," 1875, which was amended by further Acts of 1879 and 1899, and supplemented by the Margarine Act, 1877; and the Butter and Margarine Act, 1907. These Acts, in turn—except Sections 30, 31 and 36 of the Act of 1875—were repealed by the Food and Drugs

(Adulteration) Act, 1928, which provides, *inter alia*, that no person shall mix, colour, stain or powder, or order or permit any other person to mix, colour, stain, or powder any article of food with any ingredient or material so as to render it injurious to health, or any drug with any ingredient or material so as to affect injuriously the quality or potency of the drug; with the intent that the article of food or drug may be sold in that state; and that no person shall sell any article of food or drug so mixed, coloured, stained or powdered as aforesaid. The Act prohibits the sale to the prejudice of the purchaser of any article of food or drug not of the nature or not of the substance or not of the quality of the article demanded by the purchaser. Provided that an offence shall not be deemed to have been committed where any ingredient or material not injurious to health has been added to the article because it is required for the production and preparation thereof as an article of commerce in a state fit for carriage or consumption and not fraudulently to increase the bulk, weight, or measure, or to conceal the inferior quality thereof; or where the article is the subject of a patent in force and is supplied in accordance with the specification or is a proprietary medicine; or where the article is unavoidably mixed with extraneous matter in the process of the collection or preparation; or where the article being whisky, brandy, rum or gin, is not adulterated otherwise than by the admixture of water, and it is proved that such admixture has not reduced the spirit more than 35 degrees in proof. If any person sells any compound article of food or compounded drug, which is not composed of ingredients in accordance with the demand of the purchaser, he shall be guilty of an offence.

Any suspected article of food or drug, which may be the subject of a prosecution, is required to be analysed by a Public Analyst, who must give a certificate of his analysis, and every quarter furnish a report of his work under the Act to the Local Authority.

Section 15 provides that it shall be the duty of every Food and Drugs Authority to appoint one or more persons as analysts of articles of food and drugs within their area, and that the authority may remove any such person; but every such appointment and removal shall at all times be subject to the approval of the Minister of Health, who may give his approval absolutely or with modifications as to the period of the appointment, removal, or otherwise.

Clause (3) of the Section provides that every person so appointed shall possess competent knowledge, skill and experience, and shall furnish such proof of competency as may from time to time be required by regulation framed by the Minister of Health, and that no person shall be appointed as public analyst for any place who is engaged directly or indirectly in any trade or business connected with the sale of food or drugs in that place.

Clause (4) provides that the authorities shall pay to every public analyst appointed by them such remuneration as may be mutually agreed upon.

Clause (5) provides that the Council of any borough being a Food or Drugs Authority may agree that the public analyst appointed by any neighbouring borough, or for the county in which the borough is situated, shall act for their borough during such time as the Council may think proper, and the Council shall make due provision for the payment of his remuneration and, if such analyst consents, he shall during such time be the public analyst for the borough.

Section 16 provides for the taking of samples for analysis; Section 17 empowers a sampling officer to have the sample or article analysed by the public analyst, and Section 18 relates to the methods of dealing with samples taken under the Act prior to analysis.

In Section 19 power is given to the Minister of Health and the Minister of Agriculture and Fisheries to have articles analysed. Section 20 gives power to the Commissioners of Customs and Excise, in accordance with directions given by the Treasury after consultation with the Ministry of Agriculture and Fisheries, to take samples of consignments of imported articles of food for analysis by the Government Chemist.

Section 22 provides that any officer of the Minister of Agriculture and Fisheries or of the Minister of Health shall have power to inspect certain factories and to take samples for analysis.

Under Section 25 every public analyst is required to report quarterly to the authority appointing him the number of articles analysed by him during the foregoing quarter under the Act, and to specify the result of each analysis and the sum paid to him in respect thereof; and every such authority is required to transmit annually to the Ministry of Health a certified copy of the quarterly report.

Part IV of the Act deals with the legal proceedings, and the penalties imposed for offences under the Act.

Section 28 provides that in any proceedings for an offence under the Act the production by one of the parties of a certificate of a public analyst in the form prescribed shall be sufficient evidence of the facts stated therein, unless the other party requires that the analyst shall be called as a witness, and clause 5 of the same Section makes similar provision in respect of the certificate of the Government Chemist, unless the defendant requires that the person who made the analysis shall be called as a witness, subject to conditions specified in clause 6 of the same Section.

Section 31 gives power to the Court to require analysis by the Government Chemist.

In January, 1927, the Ministry of Health published a leaflet entitled "Procedure under the Sale of Food and Drugs Acts, etc." and described as Memo, 36/Foods (*January* 1927), Section III of which deals with the Appointment of Public Analysts, as follows:

> 10. When the appointment of a Public Analyst is submitted for the Minister's approval, particulars of the appointment should be given on the official form.
>
> 11. If the person appointed does not already hold an appointment as Public Analyst, it is necessary for him to provide satisfactory documentary evidence of competence in analytical chemistry, therapeutics and microscopy.
>
> 12. The Minister will ordinarily accept as sufficient evidence of competence in all three subjects the diploma of Fellowship or Associateship of the Institute of Chemistry of Great Britain and Ireland together with a certificate granted by the Institute after an examination conducted by them in the Chemistry (including microscopy) of Food and Drugs and Water.
>
> 13. Where a registered medical practitioner is appointed as a Public Analyst his medical diploma is ordinarily accepted as sufficient evidence of competence in therapeutics and microscopy, but he is required to furnish evidence of competence in analytical chemistry.
>
> 14. Where a candidate for the office of Public Analyst does not possess the specific evidences of competence mentioned above, it is necessary for him to produce documentary evidence that he has attained an equivalent standard of competence in each of the three specified subjects. A personal testimonial is of no value as evidence of competence unless it is given by a person who is himself a recognised expert of high standing in the subjects in question and testifies to his personal knowledge of the proficiency of the candidate in these subjects.

Similar Regulations have been made by the Department of Health for Scotland.

(References to the Act are also made under *Government Laboratory*, p. 59.)

For further particulars see Section IV.

MINISTRY OF HEALTH. (Foods Sub-Division.)

(Whitehall, London, S.W.1.)

For purposes which include the general control and supervision of the work of the local authorities under the Sale of Food and Drugs Acts, so far as the Ministry of Health is concerned, all matters relating to food inspection are dealt with by a special Sub-Division of the Medical Staff.

Senior Medical Officer.—C. Carnwath, D.S.O., M.B. (R.U.I.).

Deputy Senior Medical Officer.—J. M. Hamill, O.B.E., M.A., M.D. (Cantab.), D.Sc. (Lond.).

Medical Officers.—G. C. Hancock, C.B.E., M.R.C.S. (Eng.), L.R.C.P. (Lond.); Sir Weldon Dalrymple-Champneys, Bart., M.A. (Oxon.), M.D., M.R.C.P. (Lond.); F. R. Seymour, M.A., M.D. (Dub.); N. R. Beattie, M.D. (Dun.).

Chemist.—G. W. Monier-Williams, O.B.E., M.A. (Oxon.), Ph.D. (Freiburg), F.I.C.

PUBLIC ANALYSTS—ENGLAND.

Appointments confirmed by the Ministry of Health under Section 10 of the Sale of Food & Drugs Act, 1875.

County Boroughs are distiguished by the initials (C.B.).

COUNTY.	BOROUGH.	PUBLIC ANALYST.
BEDFORDSHIRE	.. ..	J. Kear Colwell, F.I.C.
	Bedford ..	
	Luton ..	
BERKSHIRE ..	.. ..	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.; A. W. Stewart, D.Sc. (Brussels), A.I.C.
	Newbury ..	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.
	New Windsor (C.B.)	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.,. *Additional.*—A. W. Stewart, D.Sc. (Brussels), A.I.C.
	Reading (C.B.)	James Thompson, Ph.D. (Heid.), F.I.C.
BUCKINGHAMSHIRE	.. ..	John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C.; Eric Voelcker, A.R.C.S., F.I.C.
	Aylesbury	John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C.
	Chepping Wycombe	Benjamin H. Gerrans, F.I.C.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
CAMBRIDGESHIRE	.. .. ..	S. Greenberg, F.I.C.
Isle of Ely ..	.. .. ..	
	Cambridge ..	
CHESHIRE ..	.. .. ..	S. Ernest Melling, F.I.C.
	Birkenhead (C.B.)	*Acting.*—W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
	Chester (City & C.B.)	W. Foulkes Lowe, A.R.S.M., F.I.C. *Deputy.*—Harold Lowe, M.Sc. (Manc.), F.I.C.
	Congleton ..	S. Ernest Melling, F.I.C.
	Hyde	William Marshall, F.I.C.
	Macclesfield ..	S. Ernest Melling, F.I.C.
	Stalybridge ..	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
	Stockport (C.B.)	William Marshall, F.I.C.
	Wallasey ..	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
CORNWALL ..	.. .. ..	H. E. Cox, Ph.D. (Lond.), F.I.C.
	Penzance ..	C. G. Moor, M.A. (Cantab.), F.I.C.; William Partridge, F.I.C.
	Truro (City) ..	Bernard Dyer, D.Sc. (Lond.), F.I.C.
CUMBERLAND ..	.. .. ..	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	Carlisle (City) ..	
DERBYSHIRE ..	.. .. ..	John White, F.I.C.
	Chesterfield ..	John Evans, F.I.C.
	Derby (C.B.) ..	John White, F.I.C.
	Glossop	
DEVONSHIRE	.. .. ..	Thomas Tickle, B.Sc. (Lond.), F.I.C.
	Barnstaple ..	
	Exeter (City & C.B.)	
	Plymouth (City)	
	Tiverton	A. H. Mitchell, B.Sc. (Lond.), F.I.C.
DORSET ..	.. .. ..	C. G. Moor, M.A. (Cantab.), F.I.C.; William Partridge, F.I.C.
	Poole	
	Weymouth and Melcombe Regis	Bernard Dyer, D.Sc. (Lond.), F.I.C.
DURHAM ..	.. .. ..	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	Darlington (C.B.)	
	Gateshead (C.B.)	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
	Hartlepool ..	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	South Shields (C.B.) ..	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
	Sunderland (C.B.)	
	West Hartlepool (C.B.)	C. J. H. Stock, B.Sc. (Dun.), F.I.C.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
ELY, ISLE OF (*see* CAMBRIDGESHIRE).		
ESSEX ..	.. .. ..	Bernard Dyer, D.Sc. (Lond.), F.I.C.; George Taylor, F.I.C.
	Colchester ..	W. F. Corfield, M.D., D.P.H.
	Southend-on-Sea	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.), F.I.C.
	East Ham ..	Bernard Dyer, D.Sc. (Lond.), F.I.C.; George Taylor, F.I.C.
	West Ham (C.B.)	W. C. Young, F.I.C.
GLOUCESTERSHIRE	.. .. ..	R. H. Ellis, F.I.C.
	Bristol (City & C.B.)	Edward Russell, B.Sc. (Lond.), F.I.C. *Staff.*—F. E. Needs, F.I.C.; F. F. Beach, M.A. (Oxon.), B.Sc. (Lond.), F.I.C.
	Gloucester (City & C.B.)	R. H. Ellis, F.I.C.
HAMPSHIRE (*see* SOUTHAMPTON).		
HEREFORDSHIRE	.. .. ..	R. H. Ellis, F.I.C.
	Hereford (City) ..	W. T. Rigby, F.I.C.
HERTFORDSHIRE	.. .. ..	Bernard Dyer, D.Sc. (Lond.), F.I.C.; G. Taylor, F.I.C.
	St. Albans (City)	A. Chaston Chapman, F.I.C., F.R.S.
HOLLAND, PARTS OF (*see* LINCOLN).		
HUNTINGDONSHIRE	.. .. ..	S. Greenberg, F.I.C.
KENT	.. .. ..	F. W. F. Arnaud, F.I.C. *Staff.*—J. W. Flint, B.A. (Cantab.), F.I.C.; B. W. Berteau; W. G. A. Clarke.
	Canterbury (City & C.B.)	Ernest M. Hawkins, F.I.C.
	Dover .. Folkestone ..	Ernest M. Hawkins, F.I.C. *Additional.*—C. C. Roberts, M.A., F.I.C.
	Gravesend .. Maidstone ..	Ernest M. Hawkins, F.I.C.
	Margate .. Ramsgate ..	Ernest M. Hawkins, F.I.C. *Additional.*—C. C. Roberts, M.A., F.I.C.
	Rochester (City & B.)	Ernest M. Hawkins, F.I.C.
	Tunbridge Wells	A. H. Mitchell Muter, F.I.C.
KESTEVEN, PARTS OF (*see* LINCOLN).		
LANCASHIRE ..	.. .. ..	G. D. Elsdon, B.Sc. (Birm.), F.I.C. *Staff.*—J. R. Stubbs, M.Sc., F.I.C.; Arnold Lees, F.I.C.; R. J. Taylor; Catherine Mayne, B.Sc. (Liv.).

COUNTY.	BOROUGH.	PUBLIC ANALYST.
LANCASHIRE—*continued.*		
	Accrington ..	S. Ernest Melling, F.I.C.
	Ashton-under-Lyne	
	Bacup	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
	Barrow-in-Furness (C.B.)	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.
	Blackburn (C.B.)	
	Blackpool (C.B.)	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
	Bolton (C.B.) ..	Harry Hurst, B.Sc. (Lond.), F.I.C. *Chemical Assistant.* — Fred Morris, F.I.C.
	Bootle (C.B.) ..	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.
	Burnley (C.B.) ..	F. Maudsley, B.Sc. (Vict.), F.I.C.
	Bury (C.B.) ..	T. J. Hutchinson, F.I.C.
	Clitheroe ..	W. H Roberts, M.Sc. (Vict. and Liv.), F.I.C.
	Lancaster ..	H. Heap, M.Sc. (Vict.), F.I.C.
	Liverpool (City & C.B.)	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C. *Additional.*—E. Gabriel Jones, M.Sc. (Vict. & Liv.), F.I.C. *Staff.*—C. F. Turner, F.I.C.; G. H. Walker, Ph.D., (Liv.), F.I.C.; Miss Muriel Roberts, B.Sc. (Liv.), F.I.C.; F. J. Smith, B.Sc. (Vict. & Liv.), A.I.C.; S. N. H. Stothart, Ph.D., B.Sc. (Liv.), F.I.C.; A. Houlbrooke, M.Sc. (Liv.), F.I.C.; G. H. Turner, B.Sc. (Liv.), A.I.C.; E. S. Hawkins, A.R.C.S., B.Sc. (Lond.), F.I.C.
	Manchester (City & C.B.)	H. Heap, M.Sc. (Manc.), F.I.C. *Additional.*—A. N. Leather, B.Sc. (Lond.), F.I.C. *Staff.*—W. M. Shortt, M.Sc. (Manc.), F.I.C.
	Oldham (C.B.) ..	S. Ernest Melling, F.I.C.
	Preston (C.B.) ..	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.
	Rochdale	S. Ernest Melling, F.I.C.
	St. Helens (C.B.)	H. J. Evans, B.Sc. (Wales), F.I.C.
	Salford (City & C.B.)	H. E. Monk, B.Sc. (Liv.), F.I.C.
	Southport ..	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
	Warrington (C.B.)	J. G. Sherratt, B.Sc.Tech. (Manc.), F.I.C.
	Wigan (C.B.) ..	S. Ernest Melling, F.I.C.
LEICESTERSHIRE	.. .. ..	Bernard Dyer, D.Sc. (Lond.), F.I.C.; G. Taylor, F.I.C.
	Leicester (City) ..	F. C. Bullock, B.Sc. (Lond.), F.I.C.

County.	Burgh.	Public Analyst.
Lincolnshire.		
Parts of Holland		Benjamin H. Gerrans, F.I.C.
Kesteven		
Lindsey		A. H. Mitchell Muter, F.I.C.
	Boston (C.B.)	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.
	Grantham	S. R. Trotman, M.A. (Cantab.), F.I.C.
	Grimsby (C.B.)	J. A. Foster, F.I.C.
	Lincoln (City)	John Evans, F.I.C.
	Louth	J. A. Foster, F I.C.
Lindsey, Parts of (*see* Lincolnshire).		
London County Council (*see* p. 64).		
London (Metropolitan Boroughs)—		
	Battersea	C. A. Hackman, F.I.C.
	Bermondsey	A. Prideaux Davson, A.R.C.S., F.I.C.
	Bethnal Green	A. E. Parkes, F.I.C.
	Camberwell	M. Priest, F.I.C.
	Chelsea	B. H. Gerrans, F.I.C.
	Deptford	H. G. Harrison, M.A. (Cantab)., F.I.C.
	Finsbury	J. Kear Colwell, F.I.C.
	Fulham	Cecil H. Cribb, B.Sc. (Lond,). F.I.C.
	Greenwich	A. Edgcome Brown, B.Sc. (Lond.), F.I.C.
	Hackney	Leo Taylor, F.I.C.; D. T. Lucke, B.Sc. (Lond.), F.I.C.
	Hammersmith	P. A. Ellis Richards, F.I.C.
	Hampstead	H. E. Cox, Ph.D. (Lond.), F.I.C.
	Holborn	J. Kear Colwell, F.I.C
	Islington	A. W. Stewart, D.Sc. (Brussels), A.I.C.
	Kensington (Royal Borough)	B. H. Gerrans, F.I.C.
	Lambeth	A. H. Mitchell Muter, F.I.C.
	Lewisham	A. J. C. Lickorish, F.I.C.
	London, City of	A. J. C. Lickorish, F.I.C.
	Paddington	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.
	Poplar	Albert E. Parkes, F.I.C.
	St. Marylebone	J. F. F. Rowland, B.A. (Cantab.), A.I.C.
	St. Pancras	J. Kear Colwell, F.I.C.
	Shoreditch	H. G. Harrison, M.A. (Cantab.), F.I.C.
	Southwark	Cyril Dickinson, B.Sc. (Vict. and Leeds), F.I.C.; *Staff.*—R. E. Griffiths, B.Sc. (Lond.), F.I.C.; Frederick Smith, F.I.C.
	Stepney	D. Henville, F.I.C. *Staff.*—W. M. Paulley, B.A. (Cantab.), F.I.C.
	Stoke Newington	A. J. C. Lickorish, F.I.C.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
London (Met. Boroughs)—*continued.*		
	Wandsworth ..	A. H. Mitchell Muter, F.I.C.; C. A. Hackman, F.I.C.
	Westminster (City)	Cecil H. Cribb, B.Sc. (Lond.), F.I.C.; P. A. Ellis Richards, F.I.C.
	Woolwich ..	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.
Middlesex (Ex-Metropolitan) ..		Stafford Aston, F.I.C.
Monmouth		G. Rudd Thompson, F.I.C. *Deputy.*—G. Hogan, F.I.C.
	Abergavenny .. Newport (C.B.) ..	G. Rudd Thompson, F.I.C.
Norfolk		W. Lincolne Sutton, F.I.C.
	King's Lynn ..	S. Greenberg, F.I.C.
	Norwich (City) Yarmouth, Great (C.B.)	W. Lincolne Sutton, F.I.C.
Northamptonshire		Eric Voelcker, A.R.C.S., F.I.C.
Soke of Peterborough		William Elborne, M.A. (Cantab.).
	Northampton (C.B.)	A. Prideaux Davson, A.R.C.S. F.I.C.
	Peterborough (City)	William Elborne, M.A. (Cantab.).
Northumberland	Berwick-upon-Tweed .. Gateshead (C.B.) Newcastle-on-Tyne (City & C.B.) .. .. South Shields (C.B.) .. Sunderland (C.B.) Tynemouth (C.B.)	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
Nottinghamshire		John Evans, F.I.C.
	Newark .. .. Nottingham (City)	S. R. Trotman, M.A. (Cantab.), F.I.C.
Oxfordshire		John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C.; *Additional.*—Eric Voelcker, A.R.S.M., F.I.C.
	Banbury ..	John A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C.
	Oxford (City & C.B.)	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.

Peterborough Soke of (*see* Northamptonshire).

County.	Borough.	Public Analyst.
Rutland		Bernard Dyer, D.Sc. (Lond.), F.I.C.; George Taylor, F.I.C.
Shropshire		Harold Lowe, M.Sc (Manc.), F.I.C.
	Shrewsbury	A. Bostock Hill, M.D. (Giessen), F.I.C.; W. T. Rigby, F.I.C.
	Wenlock	Harold Lowe, M.Sc. (Manc.), F.I.C.
Somerset		Denys R. Wood, F.I.C., *County Analyst and Bacteriologist. Staff.*—E. T. Illing, B.Sc. (Lond.) F.I.C.
	Bath (City)	H. F. Barke, B.Sc. (Lond.), F.I.C.
	Bridgwater	
Southampton		A. Prideaux Davson, A.R.C.S., F.I.C.
Isle of Wight		
	Bournemouth (C.B.)	R. A. Cripps, F.I.C.
	Portsmouth (City)	Reginald P. Page, F.I.C.; *Assistant,* C. M. Beckett.
	Southampton (C.B.)	Sydney Emsley, B.Sc. (Vict.), F.I.C. *Staff.*—R. W. Watridge, B.Sc. (Lond.), F.I.C.
	Winchester (City)	A. Prideaux Dawson, A.R.C.S., F.I.C.
Staffordshire		E. Victor Jones, F.I.C. *Additional.*—A. E. Johnson, B.Sc. (Lond.), A.R.C.Sc.I., F.I.C. *Assistant.*—F. Dixon, B.Sc. (Leeds), A.I.C.
	Burton-upon-Trent	W. Partridge, F.I.C.
	Newcastle-under-Lyme	E. Victor Jones, F.I.C.
	Smethwick	Joseph Lones, F.I.C.
	Stoke-upon-Trent (City)	A. E. Johnson, B.Sc. (Lond.), A.R.C.Sc.I., F.I.C.
	Walsall (C.B.)	F. E. Thompson, A.R.C.S., F.I.C.
	West Bromwich (C.B.)	Harry Silvester, B.Sc. (Birm.), F.I.C.
	Wolverhampton (C.B.)	A. E. Johnson, B.Sc. (Lond.), A.R.C.Sc.I., F.I.C.
Suffolk—		
Eastern Division		W. Lincolne Sutton, F.I.C.
Western Division		
	Bury St. Edmunds	
	Ipswich (C.B.)	
Surrey (Ex-Metropolitan)		Edward Hinks, M.B.E., B.Sc. (Lond.), F.I.C. *Additional.*—T. W. Glass, B.Sc. (Lond.), F.I.C.
	Croydon (C.B.)	Edward Hinks, M.B.E., B.Sc. (Lond.), F.I.C.
	Guildford	Edward Hinks, M.B.E., B.Sc. (Lond.), F.I.C.
	Reigate	

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Sussex—		
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Western Division		
	Brighton (C.B.)	
	Eastbourne (C.B.)	
	Hastings	G. M. Norman, B.Sc. (Lond.), A.R.C.S., F.I.C.
	Hove	S. Allinson Woodhead, D.Sc. (Dun.), F.I.C.
Warwickshire		W. T. Rigby, F.I.C. *Additional.*—F. G. D. Chalmers, M.A., B.Sc. (Aberd.), F.I.C.
	Birmingham (C.B.)	H. H. Bagnall, B.Sc. (Birm.), F.I.C. *Staff.*—A. F. Lerrigo, B.Sc. (Birm.), F.I.C.; Miss E. M. Milward, B.Sc. (Birm.); A. L. Williams, F.I.C.
	Coventry (City & C.B.)	A. Bostock Hill, M.D. (Giessen), F.I.C.; W. T. Rigby, F.I.C.
	Leamington	A. Bostock Hill, M.D. (Giessen), F.I.C. *Additional.*—W. T. Rigby, F.I.C.
	Warwick	
Westmorland		C. J. H. Stock, B.Sc. (Dun.), F.I.C.
	Kendal	W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.
Wiltshire		Bernard Dyer, D.Sc. (Lond.,) F.I.C.; G. Taylor, F.I.C.
	Salisbury (City)	H. F. Barke, B.Sc. (Lond.), F.I.C.
Worcestershire		C. C. Duncan, F.I.C.
	Dudley (C.B.)	Harry Silvester, B.Sc. (Birm.), F.I C.
	Kidderminster	C. C. Duncan, F.I.C.
	Worcester (C.B.)	
Yorkshire		
East Riding		J. A. Foster, F.I.C.
	Beverley	
	Bridlington	
	Kingston-on-Hull (City & C.B.)	*City Analyst and Bacteriologist.*—A. R. Tankard, F.I.C. *Staff.*—F. Morris, F.I.C.; A. Smith, B.Sc. (Lond.), A.I.C.; D. J. T. Bagnall, A.C.G.F.C., A.I.C.; H. A. Levi.
	York (C.B.)	John Evans, F.I.C.
North Riding		Ernest W. Jackson, F.I.C; Alfred Scholes, F.I.C.
	Middlesbrough (C.B.)	
	Scarborough	H. T. Lea, M.Sc. (Birm.), F.I.C.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
West Riding		F. W. Richardson, F.I.C.
	Barnsley	John Evans, F.I.C.
	Bradford (City).	F. W. Richardson, F.I.C.
	Dewsbury	F. W. Richardson, F.I.C.
	Doncaster	John Evans, F.I.C.
	Halifax (C.B.)	H. T. Lea, M.Sc. (Birm.), F.I.C.
	Harrogate	F. W. Richardson, F.I.C.
	Huddersfield (C.B.)	L. Gordon Paul, Ph.D. (Tübingen), F.I.C.
	Leeds (City)	C. H. Manley, M.A. (Oxon.), F.I.C. *Staff.*—R.W. Sutton, B.Sc. Tech. (Manc.), F.I.C.
	Rotherham (C.B.)	John Evans, F.I.C.
	Sheffield (City & C.B.)	John Evans, F.I.C.
	Wakefield (City)	F. W. Richardson, F.I.C.

PUBLIC ANALYSTS—WALES.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
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BRECON		H. J. Evans, B.Sc. (Wales), F.I.C.
CARDIGANSHIRE		John Evans, F.I.C.
CARMARTHENSHIRE		C. A. Seyler, B.Sc. (Lond.), F.I.C.
	Carmarthen	R. Pendrill Charles, T.D., M.D. (Berne), L.M.S.S.A., F.I.C.
CAERNARVONSHIRE		W. Foulkes Lowe, A.R.S.M., F.I.C. Harold Lowe, M.Sc. (Manc.), F.I.C.
DENBIGHSHIRE		W. Foulkes Lowe, A.R.S.M., F.I.C. *Additional.*—Harold Lowe, M.Sc. (Manc.), F.I.C.
FLINT		W. Foulkes Lowe, A.R.S.M., F.I.C. *Additional.*—Harold Lowe, M.Sc. (Manc.), F.I.C.
GLAMORGAN		C. A. Seyler, B.Sc. (Lond.), F.I.C.
	Cardiff (City)	Stanley Dixon, M.Sc. (Sheffield), F.I.C.
	Merthyr Tydfil	R. Pendrill Charles, T.D., M.D. (Berne), L.M.S.S.A. (Lond.), F.I.C.
	Neath	R. Pendrill Charles, T.D., M.D. (Berne), L.M.S.S.A. (Lond.), F.I.C.
	Swansea (C.B.)	C. A. Seyler, B.Sc. (Lond)., F.I.C.
MERIONETHSHIRE		Harold Lowe, M.Sc. (Manc.), F.I.C.
MONTGOMERYSHIRE		Harold Lowe, M.Sc. (Manc.), F.I.C.
PEMBROKESHIRE		C. A. Seyler, B.Sc. (Lond.), F.I.C.
RADNORSHIRE		H. J. Evans, B.Sc. (Wales), F.I.C.

ISLE OF MAN AND CHANNEL ISLANDS.

The following Official Analysts are appointed under the Sale of Food and Drugs Acts of the respective Islands :—

Isle of Man .. .. W. A. Fyffe, F.I.C.

Appointed by His Excellency, the Lieutenant-Governor.

Island of Jersey .. .. .. F. W. Toms, F.I.C. *Staff.*—C. P. Money, B.Sc. (Lond.), F.I.C.

Appointed by the States of Jersey.

Island of Guernsey and Dependencies .. .. S. G. Agar.

Appointed by the States of Guernsey.

PUBLIC ANALYSTS.—SCOTLAND.

Royal Burghs are marked (R.).

The appointments are confirmed by the Department of Health for Scotland.

COUNTY.	BURGH.	PUBLIC ANALYST.
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	Aberdeen (R.)	A. B. Weir, B.Sc. (Edin.), A.I.C.
	Ballater	J. F. Tocher, D.Sc. (Aberd.). F.I.C.
	Ellon	
	Fraserburgh	
	Huntly	
	Inverurie (R.)	
	Kintore (R.)	
	Old Meldrum	
	Peterhead	
	Rosehearty	
	Turriff	
Angus (*see* Forfar)		
Argyllshire		
	Campbeltown (R.)	J. W. Biggart, F.I.C.
	Dunoon	
	Inverary (R.)	
	Lochgilphead	
	Oban	
	Tobermory	
Ayrshire		
	Ardrossan	J. W. Biggart, F.I.C.
	Ayr (R.)	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Cumnock and Holmhead	J. W. Biggart, F.I.C.
	Darvel	
	Galston	
	Girvan	
	Irvine (R.)	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Kilmarnock	

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AYRSHIRE—*continued.*		
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	Maybole	
	Newmilns and Greenholm	
	Prestwick	
	Saltcoats	
	Stewarton	
	Troon	
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	Aberlour	
	Banff (R.)	
	Buckie	
	Cullen (R.)	
	Dufftown	
	Findochty	
	Keith	
	Macduff	
	Port Knockie	
	Portsoy	
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	Coldstream	
	Duns	
	Eyemouth	
	Lauder (R.)	
BUTE		J. W. Biggart, F.I.C.
	Millport	
	Rothesay (R.)	
CAITHNESS		J. F. Tocher, D.Sc. (Aberd.) F.I.C.
	Thurso	
	Wick (R.)	
CLACKMANNANSHIRE		G. H. Gemmell, F.I.C. *Deputy*, R. G. Thin, B.Sc. (Edin.), F.I.C.
	Alloa	
	Alva	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Dollar	Andrew Dargie, B.Sc. (St. Andrews), A.I.C.
	Tillicoultry	
DUMBARTONSHIRE		R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Clydebank	
	Cove and Kilcreggan	
	Dumbarton (R.)	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Helensburgh	
	Kirkintilloch	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Milngavie	
DUMFRIES-SHIRE		J. W. Hawley, B.Sc. (Lond.), F.I.C.
	Annan (R.)	
	Dumfries (R.)	
	Langholm	
	Lochmaben (R.)	
	Lockerbie	
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	Cockenzie	
	Dunbar (R.)	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	East Linton	G. H. Gemmell, F.I.C.
	Haddington (R.)	
	North Berwick (R.)	A. Scott Dodd, Ph.D (Edin.), F.I.C.
	Prestonpans	G. H. Gemmell, F.I.C.
	Tranent	
ELGIN (*see* MORAY).		
FIFESHIRE		Andrew Dargie, B.Sc. (St. Andrews), A.I.C
	Anstruther-Easter (R.)	
	Anstruther-Wester (R.)	
	Auchtermuchty	
	Buckhaven	
	Burntisland (R.)	
	Cowdenbeath	
	Crail (R.)	
	Culross (R.)	
	Cupar (R.)	
	Dunfermline (R.)	
	Dysart (R.)	
	Earlsferry	
	Elie	
	Falkland	
	Inverkeithing (R.)	
	Kilrenny (R.)	
	Kinghorn (R.)	
	Kirkcaldy (R.)	
	Ladybank	
	Leslie	
	Leven	
	Lochgelly	
	Markinch	
	Newburgh	
	Newport	
	Pittenweem (R.)	
	St. Andrews (R.)	
	Tayport	
FORFARSHIRE		
	Arbroath (R.)	
	Brechin (R.)	
	Broughty Ferry	
	Carnoustie	
	Dundee (R.)	
	Forfar (R.)	
	Kirriemuir	
	Monifieth	
	Montrose (R.)	

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	Inverness (R.)	T. W. Drinkwater, F.I.C.
	Kingussie	J. F. Tocher, D.Sc. (Aberd.), F.I.C.
KINCARDINESHIRE	.. ..	J. F. Tocher, D.Sc. (Aberd.), F.I.C.
	Banchory	
	Inverbervie (R.)	
	Laurencekirk	
	Stonehaven	
KINROSS-SHIRE	.. ..	A. Scott Dodd, Ph.D. (Edin.) F.I.C.
	Kinross	
KIRKCUDBRIGHT	.. ..	J. W. Hawley, B.Sc. (Lond.), F.I.C.
	Castle-Douglas	
	Dalbeattie	
	Gatehouse	
	Kirkcudbright (R.)	
	Maxwelltown	
	New Galloway (R.)	
LANARKSHIRE	.. ..	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Airdrie	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Biggar	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Coatbridge	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Glasgow (City)	R. R. Tatlock, F.I.C.; F. W. Harris, F.I.C. *Additional.*—Thomas Cockburn, F.I.C. *Staff.*—Three first-class assistants; 4 second-class assistants and 3 junior assistants.
	Hamilton	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Lanark (R.)	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Motherwell	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Rutherglen (R.)	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Wishaw	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
MIDLOTHIAN	.. ..	G. H. Gemmell, F.I.C. *Deputy.*—R. G. Thin, B.Sc. (Edin.), F.I.C.
	Bonnyrigg	
	Dalkeith	
	Edinburgh (City) (R.)	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Lasswade	G. H. Gemmell, F.I.C.
	Leith	A. Scott Dodd, Ph.D. (Edin.) F.I.C.
	Loanhead	G. H. Gemmell, F.I.C.
	Musselburgh	G. H. Gemmell, F.I.C.; R. G. Thin, B.Sc. (Edin.), F.I.C.
	Penicuik	G. H. Gemmell, F.I.C.

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	Elgin (R.)	
	Forres (R.)	T. W. Drinkwater, F.I.C.
	Grantown-on-Spey	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Lossiemouth	
	Rothes	
	Nairn (R.)	
Orkney	.. ..	A. Scott Dodd Ph.D. (Edin.), F.I.C.
	Kirkwall (R.)	G. H. Gemmell, F.I.C
	Stromness	A. Scott Dodd, Ph.D. (Edin.) F.I.C.
Peebles-shire	.. ..	G. H. Gemmell, F.I.C.
	Innerleithen	
	Peebles (R.)	A. Scott Dodd, Ph.D. (Edin.), F.I.C
Perthshire	.. ..	Andrew Dargie, B.Sc. (St. Andrews), A.I.C.
	Aberfeldy	
	Abernethy	
	Alyth	
	Auchterarder	
	Blairgowrie	
	Callander	
	Coupar-Angus	
	Crieff	
	Doune	
	Dunblane	
	Perth (City)	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Rattray	Andrew Dargie, B.Sc. (St Andrews), A.I.C.
Renfrewshire	.. ..	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Barrhead	
	Gourock	J W. Biggart, F.I.C.
	Greenock	
	Johnstone	R. R. Tatlock, F.I.C.; J. B. McKean, F.I.C.
	Paisley	R. M. Clark, B.Sc. (Glas.), F.I.C.
	Port-Glasgow	J. W. Biggart, F.I.C.
	Renfrew (R.)	R. M. Clark, B.Sc. (Glas.), F.I.C.
Ross-shire and Cromarty		T. W. Drinkwater, F.I.C.
	Cromarty	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Dingwall (R.)	
	Fortrose (R.)	T. W. Drinkwater, F.I.C.
	Invergordon	A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Stornoway	G. H. Gemmell, F.I.C.
	Tain (R.)	J. F. Tocher, D.Sc. (Aberd.), F.I.C.

COUNTY.	BURGH.	PUBLIC ANALYST.
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	Jedburgh (R.)	
	Kelso	
	Melrose	
SELKIRKSHIRE		A. Scott Dodd Ph.D. (Edin.), F.I.C.
	Galashiels	
	Selkirk (R.)	
STIRLINGSHIRE		
	Bridge of Allan	R. R. Tatlock, F.I.C.; R. T. Thomson, F.I.C.; J. B. McKean, F.I.C.
	Denny and Dunipace	
	Falkirk	
	Grangemouth	
	Kilsyth	
	Stirling (R.)	
SUTHERLANDSHIRE		J. F. Tocher, D.Sc. (Aberd.), F.I.C.
	Dornoch (R.)	R. M. Clark, B.Sc. (Glas.), F.I.C.
WEST LOTHIAN		G. H. Gemmell, F.I.C.
	Armadale	
	Bathgate	
	Bo'ness	
	Linlithgow (R.)	
	Queensferry (R.)	
	Whitburn	
WIGTOWNSHIRE		J. W. Hawley, B.Sc. (Lond.), F.I.C.
	Newton Stewart	
	Stranraer (R.)	
	Whithorn (R.)	
	Wigtown (R.)	
ZETLAND		A. Scott Dodd, Ph.D. (Edin.), F.I.C.
	Lerwick	

MINISTRY OF HEALTH.

National Health Insurance Act.

ENGLAND AND WALES.

Analysts appointed under the scheme for the testing of drugs, medicines and appliances supplied to insured persons under the National Health Insurance Act.

Counties of Berks., Bucks., Cornwall, Devon, Dorset, Essex, Hants., Isle of Wight, Kent, London, Oxfordshire, Somerset, Surrey, Sussex (East and West), and Wilts. County Boroughs of Bath, Bournemouth, Brighton, Bristol, Canterbury, Croydon, Eastbourne, East Ham, Exeter, Hastings, Oxford, Plymouth, Portsmouth, Reading, Southampton and West Ham.	Messrs. Harrison & Self [P. A. W. Self, B.Sc. (Lond.), F.I.C., and C. E. Corfield, B.Sc. (Lond.), F.I.C.]

Counties of Cheshire, Gloucestershire, Herefordshire, Lancs., Leicestershire, Salop, Staffs., Warwickshire, and Worcestershire. County Boroughs of Barrow-in-Furness, Birkenhead, Birmingham, Blackburn, Blackpool, Bolton, Bootle, Burnley, Burton-on-Trent, Bury, Chester, Coventry, Dudley, Gloucester, Leicester, Liverpool, Manchester, Oldham, Preston, Rochdale, St. Helens, Salford, Smethwick, Southport, Stockport, Stoke-on-Trent, Wallasey, Walsall, Warrington, West Bromwich, Wigan, Wolverhampton, and Worcester.	C. E. Sage, F.I.C.
Counties of Cumberland, Durham, Northumberland, Westmoreland, and West Riding of Yorkshire. County Boroughs of Barnsley, Bradford, Carlisle, Darlington, Dewsbury, Gateshead, Halifax, Huddersfield, Leeds, Newcastle-on-Tyne, Rotherham, South Shields, Sunderland, Tynemouth, Wakefield, and West Hartlepool.	Messrs. Muter & Hackman [A. H. Mitchell Muter, F.I.C. and C. A. Hackman, F.I.C.]
Counties of Beds., Cambridgeshire, Derbyshire, Herts., Hunts., Isle of Ely, Lincs. (Holland, Kesteven, and Lindsey), Norfolk, Northants., Notts., Rutlandshire, Soke of Peterborough, Suffolk (East and West), and Yorks. (East and North Riding). County Boroughs of Derby, Great Yarmouth, Grimsby, Ipswich, Kingston - on - Hull, Lincoln, Middlesbrough, Northampton, Norwich, Nottingham, Southend-on-Sea, and York.	W. Lincolne Sutton, F.I.C.
Counties of Anglesey, Brecon, Caernarvon, Cardigan, Carmarthen, Denbigh, Flint, Glamorgan, Merioneth, Montgomery, Pembroke, Radnor, and Monmouth. County Boroughs of Cardiff, Merthyr Tydfil, Newport, and Swansea.	H. J. Evans, B.Sc. (Wales), F.I.C.

In certain cases the analysis is entrusted by the local authority to the Public Analyst, e.g. the County of Middlesex (Stafford Aston, F.I.C.) and the City and C.B. of Sheffield (John Evans, F.I.C.).

SCOTLAND.

Counties of Berwick, East Lothian, Midlothian, Peebles, Roxburgh, Selkirk and West Lothian.	A. Scott Dodd, Ph.D. (Edin.), F.I.C.

MINISTRY OF HEALTH.

ENGINEERING DEPARTMENT.

Chemical Inspector.—H. T. Calvert, M.B.E., B.Sc. (Vict.), Ph.D. (Leipzig), D.Sc. (Leeds), F.I.C.

MINISTRY OF HEALTH.

Alkali, etc., Works Regulation Act, 1906 (6 *Edw.* 7, *chap.* 14).

In 1863, an Act was passed "for the more effectual condensation of muriatic acid gas evolved in Alkali Works." This Act provided for the registration and inspection of alkali works, and required that these works should be carried on in such a manner as to secure the condensation of not less than 95 per cent. of the muriatic gas evolved therein. Provision was made for the appointment of Inspectors, and regulations were enforced for the recovery of penalties for offences under the Act. The Act was to continue in force only until the 1st of July, 1868, but in June of that year it was made "perpetual." In 1874 a further Alkali Act was passed, imposing an additional limit of one-fifth of a grain of muriatic acid in one cubic foot of chimney gases from alkali works, and extending the definition of "alkali works" to include wet copper works, making provision also for use of the best practicable means for the condensation of noxious gases other than muriatic acid. In 1881 the Alkali, etc., Works Regulation Act was passed to consolidate the Acts of 1863 and 1874, and to make further provision for regulating alkali and certain other works in which noxious or offensive gases were evolved. This Act, which repealed the previous Acts, came into operation on the 1st day of January, 1882. Under its provisions, the owner of any alkali work, in addition to complying with the above-mentioned obligations, was required to keep separate acid and alkali waste and drainage therefrom, and persons generally were required to dispose of alkali waste so as to avoid nuisance arising therefrom. It imposed statutory limits of escape on owners of sulphuric acid works and, in these and all other scheduled works, the obligation to use the best practicable means for preventing the discharge of noxious and offensive gases. The Act also gave power by Provisional Order to limit the discharge of noxious and offensive gases in salt and cement works. The works were required to be registered, and the owners were required to apply for certificates of registration annually on payment of certain stamp duties. In 1884, the Local Government Board's Provisional Order (Salt Works) was passed applying to the chimney gases of salt works the limit of one-fifth of a grain of muriatic acid per one cubic foot of escaping gases, and imposing best practicable means. In 1892 a further Act was passed under the provisions of which other works were scheduled for the purposes of the 1881 Act, but certain works, wherein no sulphuretted hydrogen was evolved, were not deemed to be included in the Schedule. The Acts of 1881 and 1892 were consolidated and amended by the Act passed in 1906, which came into operation on the 1st January, 1907, and which imposes requirements as to the condensation of muriatic acid gas and the prevention of discharges of noxious and offensive gas in alkali works, the separation of acids and other substances capable of liberating sulphuretted hydrogen from alkali waste and drainage therefrom; the deposit or discharge of alkali waste and the prevention of nuisance arising therefrom; as to the condensation of acid gases in sulphuric acid and certain classes of works other than alkali works in which muriatic acid gas is evolved, either incidentally or for use in any manufacturing process, and the adoption of the best practicable means for the prevention of the discharge of noxious or offensive gas in these and other scheduled works; and as to the registration and inspection of works. The Act also gives power by a Provisional Order to limit the discharge of noxious or offensive gases in cement and smelting works, certain gases being scheduled as noxious and offensive, hereby reverting to the procedure of the Act of 1874, but increasing the number of such gases. The first schedule appended to the Act consists of a list of works affected by its provisions, including those connected with sulphuric acid, chemical manures, gas liquor, sulphate and muriate of ammonia, nitric acid, chlorine, muriatic acid, sulphides, alkali waste recovery, Venetian red, lead sulphate deposits, arsenic, nitrate and chloride of iron, bisulphide of carbon, sulphocyanides, picric acid, bisulphites, tar, zinc, and the refining of crude shale oil.

In 1919 the Local Government Board was absorbed in the newly-created Ministry of Health, and consequently now the appointment of Inspectors for the administration of the Act in England and Wales is under the control of the Ministry of Health. The Minister is required to appoint a Chief Inspector, and such other Inspectors and Deputy Inspectors as may be deemed necessary for the execution of the Act, and is empowered to regulate the cases and manner in which the Inspectors are to execute and perform their powers and duties under the Act, and may remove such Inspectors. Under certain conditions the Minister, with the sanction of the Treasury, may appoint additional Inspectors on the application of any sanitary authority. An Inspector must not be employed in any other work except by or with the sanction of the Minister, and must not act or practise as a land agent or be engaged or interested directly or indirectly in any work to which the Act applies, or in any patent for any process or apparatus connected with such work or with the condensation of acid gases or with the treatment of alkali waste, or with preventing the discharge into the atmosphere or rendering harmless or inoffensive any noxious or offensive gas, or otherwise with any of the matters dealt with by the Act. The Chief Inspector is required to report annually to the Minister on the proceedings of himself and of the other Inspectors under the Act, and the report is laid before both Houses of Parliament.

Section 4 of the Public Health (Smoke Abatement) Act, 1926, provides that the Minister of Health may, after a public enquiry and after consultation with any local authorities or other interests concerned, make orders (*a*) extending the list of noxious or offensive gases mentioned in Section 27 of the Act of 1906; and (*b*) extending the list of works mentioned in the First Schedule to the Act of 1906.

Under the powers conferred by this Section, an Order was made in 1928 by which certain additions were made to the list of noxious and offensive gases. The descriptions of certain Scheduled Works were also extended and additional works, including those connected with benzene, pyridine, bromine and hydrofluoric acid, were added to the Schedule.

A complete list of registrable operations is given in the 66th Annual Report on Alkali, etc., Works, published by the Stationery Office.

In the application of the Act to Scotland references to the Secretary to the Department of Health for Scotland are substituted for references to the Ministry of Health. (*See* p. 101.)

INSPECTORS—ENGLAND AND WALES.

Chief Inspector.—W. A. Damon, B.Sc. (Birm.), F.I.C.

Inspectors.—E. M. Fletcher; R. D. Littlefield, F.I.C.; A. C. Carter, F.I.C.; J. Picken, B.Sc. (Glas.), F.I.C.; H. G. Howson, B.Sc. (Lond.), F.I.C.; C. Bride, M.A. (Oxon.), B.Sc. (Lond.), A.I.C.; A. C. Monkhouse, Ph.D. (Leeds), A.I.C.

Assistant to Chief Inspector.—J. S. Carter, Ph.D. (Leeds), F.I.C.

(*For Inspector for Scotland, see Department of Health for Scotland*, p. 101.)

MINES DEPARTMENT.

Safety in Mines Research Board.

(Portobello Street, Sheffield.)

The appointments on the staff of the Safety in Mines Research Board are made by the Secretary for Mines.

Director of the Research Stations.—Prof. R. V. Wheeler, D.Sc. (Vict.), F.I.C.

Assistant Director.—H. F. Coward, D.Sc. (Manc.), F.I.C.

Principal Assistants.—F. V. Tideswell, Ph.D.; W. Payman, D.Sc.

Senior Assistants.—M. J. Burgess; O. C. de C. Ellis, Ph.D. (Vict.), F.I.C.

Assistants.—T. N. Mason; A. L. Godbert, Ph.D.; W. A. Kirkby, Ph.D. (Manc.), A.I.C.; F. J. Hartwell, M.Sc.; J. Harwood, M.Sc.; H. Robinson, M.Sc.; H. Grimshaw, M.Sc.; C. A. Naylor; D. W. Woodhead, M.Sc. (Manc.), A.I.C.; W. C. F. Shepherd, B.Sc.

Junior Assistants.—J. E. Ashmore, M.Sc.; S. Jones, B.Sc.Tech.; E. M. Guénault, M.Sc. (Sheffield), A.I.C.; C. S. W. Grice.

Mines Department Testing Station, Sheffield.

Chemist.—J. T. Burdekin, Ph.D. (Sheffield), A.I.C.

THE PATENT OFFICE.

(Department of the Board of Trade.)

(25, Southampton Buildings, Chancery Lane, London, W.C.2.)

The education and training of competent professional chemists is such as to render them in many cases suitable candidates for appointment as Assistant Examiners in the Patent Office, and a considerable number of chemists hold such appointments.

The Civil Service Commission publishes, from time to time, special regulations for open Competitive Examinations for the appointment of Assistant Examiners in the Patent Office. The limits of age are 20 and 25, certain reservations being made in the case of persons who have served in the Army, Navy, Air Force or Royal Irish Constabulary for not less than two full consecutive years. The subjects of the Examination are (i) Essay; (ii) English; (iii) Present Day (questions on contemporary subjects, social, economic and political); (iv) Mathematics; (v) Mechanics and Hydrostatics; (vi) Physics; (vii) Pure Chemistry; (viii) Translation from one of the following languages: French, German, Spanish or Italian; (ix) History of Inventions; (x) One of the following subjects: (*a*) Mechanical Engineering, (*b*) Electrical Engineering, (*c*) Industrial Chemistry.

*Particulars can be obtained from the Secretary, Civil Service Commission, Burlington Gardens, London, W.*1.

PORT AUTHORITIES.

KINGSTON-UPON-HULL	*Port Analyst.*—Arnold R. Tankard, F.I.C.
LONDON..	*Chemical Adviser and Analyst.*—Herbert F. Stephenson, A.R.C.S., F.I.C.

POST OFFICE.

(St. Martin's-le-Grand, London, E.C.1.)

Chemical investigations for the Post Office are undertaken by the Government Chemist (*see* p. 58), but several chemists are attached to the Engineering Department for research and examination of engineering stores.

Research Section.—C. E. Richards, A.I.C.; D. W. Glover, M.Sc. (Manc.), A.I.C.; E. A. Speight, Ph.D.

Engineering Testing Branch, Birmingham.—R. Linch, A.I.C.; H. F. Hourigan, B.Sc. (Liv.), A.I.C.; F. S. Garrett, B.Sc. (Birm.), A.I.C.

*Engineering Testing Branch, Studd Street, London, N.*1.—J. Jupp; R. L. Bull, B.Sc. (Lond.), A.I.C.; A. D. W. Downes, B.Sc.; J. S. Cook, B.Sc., A.R.C.S.; R. W. Dougald, B.Sc., A.R.C.S.

(LONDON) RADIUM INSTITUTE.

(16, Riding House Street, W.1.)

Director of Chemical and Physical Laboratories.—W. L. St. J. Alton, F.I.C.

THE ROYAL ACADEMY OF ARTS.

(Burlington House, Piccadilly, London, W.1.)

Professor of Chemistry.—A. P. Laurie, M.A. (Cantab.), D.Sc. (Edin.).

THE ROYAL COMMISSION ON SEWAGE DISPOSAL.

(*See Water, Sewage, Rivers Boards, etc.*, p. 109.)

ROYAL INSTITUTION OF GREAT BRITAIN.

(21, Albemarle Street, London, W.1.)

Fullerian Professor of Chemistry and Director of the Davy Faraday Research Laboratory.—Sir William H. Bragg, K.B.E., M.A. (Cantab.), D.Sc. (Manc.), F.R.S.

THE ROYAL MINT.

(Tower Hill, London, E.)

See also Melbourne, Victoria (p. 273); *Perth, Western Australia* (p. 279); *Ottawa, Canada* (p. 254); *and Pretoria, South Africa* (p. 249).

The conditions of entry are now under revision.

ASSAY DEPARTMENT.

Chief Assayer.—S. W. Smith, D.Sc. (Lond.), A.R.S.M., F.I.C.

Assayers.—John Phelps, M.A. (Oxon.); H. B. Gritton.

OPERATIVE DEPARTMENT.

Senior Technical Officer (Metallurgical).—W. A. C. Newman, B.Sc. (Lond.), A.R.C.S., A.R.S.M., F.I.C.

Junior Technical Officer (Metallurgical).—J. H. Watson, M.C., B.Sc. (Lond.), A.R.S.M.

THE SCIENCE MUSEUM.

(South Kensington, London, S.W.7.)

Chemistry is a subject which may be required in the examination for Assistantships in the Science Museum.

Assistant Keeper.—Alexander Barclay, A.R.C.S., A.I.C.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH.

(16, Old Queen Street, Westminster, London, S.W.1.)

The Committee of the Privy Council for Scientific and Industrial Research was appointed by Order in Council dated July 28, 1915, amended by an Order in Council dated February 6, 1928, to direct, subject to such conditions as the Treasury may from time to time prescribe, the application of any sums of money provided by Parliament for the organisation and development of scientific and industrial research. The Committee consists of the holders for the time being of certain Ministerial offices. The

Order in Council also appointed an Advisory Council, to whom all proposals for researches stand referred. By Charter dated November 23, 1916, amended by a supplemental Charter dated April 27, 1928, the members of the Committee of the Privy Council were created a Body Corporate under the name of "The Imperial Trust for the Encouragement of Scientific and Industrial Research," to hold and dispose of money and other property for the purposes of the Committee. On December 15, 1916, a separate Department, having its own Parliamentary vote, was created for the service of the Committee.

President of the Committee of the Privy Council.—The Lord President of the Council.

Advisory Council.—Professor Sir Ernest Rutherford, O.M., F.R.S. (Chairman); Sir Arthur Balfour, Bart., K.B.E.; Sir William H. Bragg, K.B.E., D.Sc., F.R.S.; E. J. Butler, C.I.E., D.Sc., M.B., F.R.S.; Sir J. Alfred Ewing, K.C.B., LL.D., D.Sc., Sc.D., M.Inst.C.E., F.R.S.; Sir William J. Larke, K.B.E.; Kenneth Lee, LL.D.; Sir David Milne-Watson, LL.D., D.L.; Right Hon. Lord Rayleigh, Sc.D., F.R.S.; N. V. Sidgwick, O.B.E., Sc.D., F.R.S.; Sir James Walker, Ph.D., D.Sc., LL.D., F.I.C., F.R.S.

Secretary to the Council.—Sir F. E. Smith, K.C.B., C.B.E., D.Sc., LL.D., Sec. R.S.

Secretary.—Sir F. E. Smith, K.C.B., C.B.E., D.Sc., LL.D., Sec. R.S.

Assistant Secretaries.—Ll. S. Lloyd, C.B.; A. L. Hetherington.

Director of Building Research.—R. E. Stradling, M.C., Ph.D., D.Sc., M.Inst.C.E.

Director of Chemical Research.—Professor G. T. Morgan, O.B.E., D.Sc., F.I.C., F.R.S.

Director of Food Investigation.—Sir William B. Hardy, D.Sc., LL.D., F.R.S.

Director of Forest Products Research.—R. S. Pearson, C.I.E.

Director of Fuel Research.—C. H. Lander, C.B.E., D.Sc., M.Inst.C.E., M.Inst.Mech.E., F.Inst.P.

Assistant Director of Fuel Research.—F. S. Sinnatt, M.B.E., D.Sc., F.I.C.

Director of Water Pollution Research.—H. T. Calvert, M.B.E., Ph.D., F.I.C. (part-time).

Assistant Director of Water Pollution Research.—A. Parker, D.Sc. (Birm.), F.I.C.

Director of the National Physical Laboratory.—Sir Joseph E. Petavel, K.B.E., D.Sc., F.R.S.

RESEARCH STATIONS OF THE DEPARTMENT.

Chemists are employed at several of the Research Stations of the Department. Particulars of those stations where the work carried out is to a large extent chemical in nature, are given below, together with the names of the officer-in-charge of the station and of research chemists employed.

BUILDING RESEARCH STATION.

(Bucknalls Lane, Garston, nr. Watford.)

Director.—R. E. Stradling, M.C., Ph.D., D.Sc., M.Inst.C.E.

Superintendent of Laboratories.—B. H. Wilsdon, B.Sc.

Senior Assistant.—B. Bakewell, M.A.

Assistants, Grade I.—F. L. Brady, M.Sc., A.I.C.; A. D. Cowper, M.Sc., A.I.C.; F. M. Lea, M.Sc., A.I.C.; R. J. Schaffer, B.Sc.

Assistants, Grade II.—C. M. Watkins, Ph.D., A.I.C.; D. G. R. Bonnell, Ph.D.

Junior Assistants.—L. F. Cooling, M.Sc.; H. M. Llewellyn, B.Sc., A.I.C.; G. E. Bessey, B.Sc., A.I.C.; B. Butterworth, B.Sc; T. W. Parker, M.Sc.; F. E. Jones, M.Sc.

CHEMICAL RESEARCH LABORATORY.

(Teddington, Middlesex.)

Director of Research.—Professor G. T. Morgan, O.B.E., M.Sc. (Birm.), D.Sc. (Lond.), A.R.C.S., F.I.C., F.R.S.

Principal Assistant.—G. D. Bengough, M.A. (Cantab.), D.Sc. (Liv.).

Senior Assistants.—R. Taylor, M.A. (Cantab.), B.Sc. (Oxon.), *Acting*; D. D. Pratt, M.A., Ph.D. (St. Andrews), *Acting*.

Assistants, Grade I.—J. G. Mitchell, Ph.D. (St. Andrews); W. H. J. Vernon, Ph.D., D.Sc. (London), D.I.C., F.I.C.

Assistants, Grade II.—H. Ingleson, M.A., D.Phil. (Oxon.); A. R. Lee, Ph.D. (Lond.), A.R.C.S., D.I.C.; G. R. Davies, B.Sc. (Lond.), Ph.D. (Birm.); E. A. Coulson, M.A., D.Phil. (Oxon.); Miss J. Stewart, M.Sc. (Dun.), Ph.D. (Lond.), A.I.C.; F. H. Burstall, M.Sc. (Lond. & Birm.), A.I.C.

Junior Assistants.—N. J. L. Megson, M.Sc. (Birm,), A.I.C.; A. T. Healey, Ph.D. (Lond.), D.I.C. A.I.C.; E. L. Holmes, M.Sc. (Lond.), A.R.C.S.; A. E. J. Pettet, B.A. (Oxon.); E. Walton, Ph.D. (Dun.); D. V. N. Hardy, Ph.D. (Lond.), A.I.C.; L. P. Walls, B.A. (Cantab.), B.Sc. (Lond.); F. Wormwell, B.Sc. (Lond.), M.Sc. (Manc.); L. Whitby, M.Sc. (Lond.), A.I.C.

FOREST PRODUCTS RESEARCH LABORATORY.

(Princes Risborough, Bucks.)

Assistant, Grade I.—W. G. Campbell, B.Sc. (St. Andrews), M.S. (Wisconsin).

Junior Assistants.—J. Booth, Ph.D. (Aberd.), A.I.C.; Miss K. F. Taylor, Ph.D. (Wales), A.I.C.; N. A. Richardson, B.Sc. (Lond.), A.I.C.

FUEL RESEARCH STATION.

(Blackwall Lane, East Greenwich, London, S.E.10.)

Chief Engineer.—Eng. Captain J. Fraser Shaw, R.N. (Ret.).

Chief Chemist.—J. G. King, Ph.D. (Lond.), A.R.T.C., F.I.C.

Senior Assistants (Acting).—D. MacDougall, B.Sc. (Lond.), A.R.T.C., F.I.C.; A. B. Manning, M.Sc. (Sheffield), Ph.D. (Lond.), D.I.C.

Assistant, Grade I.—W. E. Bakes, M.Sc. (Leeds), A.I.C.

Assistants, Grade II.—H. Bardgett, B.Sc. (Dun.); L. Horton, Ph.D. (Lond.), A.R.C.S., A.I.C.; M. A. Matthews, Ph.D., D.Sc. (Lond.), F.I.C.; R. A. A. Taylor, M.Sc. (Lond.), A.R.C.S., F.I.C.; F. A. Williams, Ph.D. (Lond.), A.I.C.

Junior Assistants.—J. H. G. Carlile, B.Sc. (Lond.), A.R.C.S., D.I.C.; C. M. Cawley, M.Sc. (Lond.), A.R.C.S., D.I.C.; H. E. Crossley, B.Sc.Tech. (Manc.), A.I.C.; C. C. Hall, B.Sc. (Lond.), A.I.C.; H. E. Newall, M.Sc.Tech. (Manc.), A.I.C.; Miss F. M. E. Shepherd, M.Sc. (Lond.); R. V. Thomas, B.A. (Cantab.); W. J. S. Walker, Ph.D. (Edin.), F.I.C.; E. T. Wilkins, M.Sc. (Lond.); B. H. Williams, Ph.D. (Liv.); J. L. Wiltshire, M.Sc. (Lond.), A.I.C.

PHYSICAL AND CHEMICAL SURVEY OF THE NATIONAL COAL RESOURCES.

(Headquarters, 16, Old Queen Street, London, S.W.1.)

Superintendent.—F. S. Sinnatt, M.B.E., D.Sc. (Manc.), F.I.C.

Senior Assistants.—L. Slater, M.Sc.Tech., Ph.D. (Manc.), A.I.C. (South Yorkshire Area); W. J. Skilling, A.R.T.C., A.I.C. (Scotland).

Assistants, Grade I.—A. Dawe, B.Sc. (Manc.), A.I.C. (Nottinghamshire and Derbyshire Area); J. H. Jones, Ph.D. (Liv.), A.I.C. (Northumberland and Durham).

Assistants, Grade II.—J. R. Campbell, Ph.D. (Glas.), A.R.T.C., A.I.C. (Scotland); T. Evans, B.Sc. (Wales), A.I.C. (South Wales); D. Hicks, M.Sc. (Lond.), (South Wales); J. O'N. Millott, B.Sc. (Lond.), A.I.C. (North Staffs. Area); A. M. Wandless, M.A. (Cantab.), (West Yorks Area).

Junior Assistants.—H. Berry, M.Sc.Tech. (Manc.), A.I.C. (Northumberland and Durham); G. W. Fenton, Ph.D. (Leeds), (North Staffs. Area); A. E. Gerty, B.Sc. (Glas.), A.I.C. (Scotland); D. A. Hall, B.Sc. (Notts and Derby Area); W. L. Wood, Ph.D. (South Yorks Area).

LOW TEMPERATURE RESEARCH STATION.

(Downing Street, Cambridge).

Superintendent.—Sir William B. Hardy, D.Sc., LL.D., F.R.S.

Senior Assistant.—T. Moran, Ph.D. (Cantab. and Liv.), A.I.C.

Assistants, Grade I.—E. H. Callow, B.Sc. (Birm.), Ph.D. (Cantab.) F.I.C.; T. N. Morris, M.A. (Cantab.); E. C. Smith, Ph.D. (Cantab. and Manc.).

Assistants, Grade II.—J. Brooks, Ph.D. (Liv.), A.I.C.; J. M. Bryan, B.Sc. (Lond.).

Junior Assistant.—C. H. Lea, Ph.D. (Liv.), A.I.C.

GEOLOGICAL SURVEY OF GREAT BRITAIN.

[*Note*—The chemical work for the Geological Survey is undertaken at the Government Laboratory.]

NATIONAL PHYSICAL LABORATORY.

(Teddington, Middlesex.)

Director.—Sir Joseph E. Petavel, K.B.E., D.Sc., F.R.S.

Department of Metallurgy and Metallurgical Chemistry.

Superintendent.—W. Rosenhain, B.A., D.Sc., F.R.S.

Principal Assistant.—S. L. Archbutt, F.I.C.

Senior Assistants.—G. Barr, B.A., D.Sc.; W. H. Withey, B.A.; J. L. Haughton, D.Sc., F.Inst.P.; C. H. M. Jenkins, B.Sc., A.R.S.M.

Assistants.—T. E. Rooney, A.M.S.T., F.I.C.; J. D. Grogan, B.A.; L. L. Bircumshaw, B.A., D.Sc.; V. H. Stott, M.Sc.; P. G. Ward, B.Sc., A.R.C.S.; Miss M. L. V. Gayler, D.Sc.; N. P. Tucker; F. Adcock, M.B.E., B.Sc.; Miss I. H. Hadfield, M.Sc.; G. D. Preston, B.A.; A. J. Murphy, M.Sc.; D. Turner, B.Sc.; H. A. Sloman, M.A. (Cantab.), A.I.C.; W. E. Prytherch, M.Sc.; M. L. Becker, B.Met., Ph.D.; W. P. Rees, M.Sc.

Junior Assistants.—G. A. Mellor, M.Sc.; T. H. Schofield, M.Sc.; C. A. Bristow, B.Sc., A.R.S.M.; E. H. Bucknall, M.Sc.; D. R. Hudson. B.Sc.

INDUSTRIAL RESEARCH ASSOCIATIONS.

British Boot, Shoe and Allied Trades Research Associations.

(19 Bedford Square, London, W.C. 1.

Chemist on Research Staff.—A. Colin-Russ, Ph.D. (Lond.), F.I.C.

British Cast Iron Research Association.

(24, St. Paul's Square, Birmingham.)

Director and Secretary.—J. G. Pearce, M.Sc.

Consultant.—J. E. Fletcher.

Technical Assistant.—F. K. Neath, B.Sc.

Research Staff.—E. Morgan, M.Sc. (Wales); J. G. A. Skerl, D.Sc. (Lond.), A. L. Norbury, D.Sc. (Liv.); H. Cowan, B.Sc. (Sheffield).

British Association of Research for the Cocoa, Chocolate, Sugar Confectionery and Jam Trades.

(2 and 4, Dalmeny Avenue, Holloway, London, N.7.)

Director.—Thomas Macara, F.I.C.

Assistant Director.—L. E. Campbell, M.Sc., Ph.D. (Lond.), F.I.C.

Research Staff.—C. L. Hinton, F.I.C.; C. A. Hallas, B.Sc. (Lond.), F.I.C.; Miss E. M. Chatt, B.Sc. (Lond.), A.I.C.; R. G. Ross, B.Sc. (Lond.); G. O. Young; A. M. Taylor.

British Cotton Industry Research Association.

(Shirley Institute, Didsbury, Manchester.)

Director.—R. H. Pickard, D.Sc. (Lond.), F.I.C., F.R.S.

Deputy Director.—F. C. Toy, D.Sc. (Lond.), F.Inst.P.

Assistant to Director.—L. B. Tansley, M.A. (Cantab.), M.Sc. (Lond.), A.I.C.

Spinning.—A. J. Turner, D.Sc. (Lond.), M.A. (Cantab.); F. Charnley, B.Sc. (Manc.); G. A. R. Foster, B.A. (Cantab.); J. Gregory, B.Sc. (Manc.); Miss R. Hodgson, B.A. (Cantab.); J. F. Kelly, B.Sc. (Manc.),; J. R. Womersley, B.Sc. (Lond.), A.R.C.S.; G. C. Ehlers, B.A. (Cantab.).

Sizing.—F. D. Farrow, M.Sc. (N.Z.); W. A. Richardson, B.Sc. (Manc.); J. B. O'Sullivan, B.Sc. (Lond.), F.I.C.; V. R. Main, M.Sc. (Lond.), A.I.C.; B. Farrow, B.Sc. (Lond.); E. Bradbury, B.Sc. (Lond.).

Weaving.—S. A. Shorter, D.Sc. (Leeds); J. J. Vincent, M.Sc. (Lond.); W. T. Howell, B.Sc. (Wales); T. C. Williams, M.Sc. (Wales); G. E. Collins, M.Sc. Tech. (Manc.).

Bleaching.—R. G. Fargher, D. Sc. (Manc.); M. E. Probert, Ph.D. (Lond.), A.I.C.; L. V. Lecomber, B.Sc. (Manc.); H. Naylor, F.I.C.

Dyeing.—D. A. Clibbens, Ph.D. (Jena), B.Sc. (Lond. and Bris.); A. Geake, Ph.D. (Bris.), F.I.C.; A. R. Urquhart, D.Sc. (Edin.), A.I.C.; G. F. Davidson, B.Sc. (Edin.); Miss M. A. Calvert, B.Sc. (Liv.).

Testing.—F. T. Peirce, B.Sc. (Sydney), F.I.C.; E. Midgley, B.Sc. (Leeds); Miss G. G. Clegg, M.Sc. (Liv.); J. A. Morrow, D.I.C.; G. C. Eltedton, B.A. (Cantab.); C. Underwood, B.A. (Cantab.); Miss M. H. Coleman, B.Sc. (Manc.); E. R. West, B.Sc.

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Consultant in Dyeing.—P. E. King, A.I.C.

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Colour Chemist.—P. W. Cunliffe, Ph.D. (Lond.), F.I.C.

Chemists.—A. T. King, B.Sc. (Lond.), F.I.C.; J. Barritt, B.Sc. (Lond.), A.R.C.S., A.I.C.; Miss P. N. Lambert, M.Sc.

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COAL AND COKE RESEARCH ASSOCIATIONS.

THE LANCASHIRE AND CHESHIRE COAL RESEARCH ASSOCIATION

(College of Technology, Manchester).

See errata p. 275, 1931 Journal

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Chief Assistant.—C. G. Wood, M.Sc.Tech. (Manc.), A.I.C.

Chemists.—W. Gibson, M.Sc.Tech. (Manc.), A.I.C.; S. V. Wild, M.Sc.Tech. (Manc.), A.I.C.; G. Wrapson, B.Sc.Tech. (Manc.); C. F. Myers, B.Sc. (Lond.), A.I.C.

Junior Assistants.—E. Nicholl; C. Dyson; F. Jackson.

The Staff also includes Paleobotanists and others whose work is not of a chemical nature.

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(Armstrong College, Newcastle-upon-Tyne).

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Senior Chemist.—C. B. Marson, Ph.D. (Leeds), A.I.C.

Assistant Chemist.—H. E. Blayden, B.Sc. (Lond.), A.I.C.

SCOTLAND.

AGRICULTURAL ANALYSTS appointed under the FERTILISERS AND FEEDING STUFFS ACT, 1926 (*see Department of Agriculture for Scotland*, p. 30).

PUBLIC ANALYSTS appointed under the FOOD AND DRUGS (ADULTERATION) ACT (*see Department of Health for Scotland*, p. 80).

DEPARTMENT OF HEALTH FOR SCOTLAND.

(125, George Street, Edinburgh.)

Alkali, etc., Works Regulations Acts, 1906 (*see* p. 87).

The appointment of Inspectors for the administration of the Acts in Scotland is under the control of the Department of Health for Scotland.

Chief Inspector.—J. W. Young, B.A., B.Sc. (Lond.).

Rivers Pollution Prevention Act, 1876.

The Inspector, when requested by the Department of Health for Scotland, conducts and reports on enquiries into questions affecting the prevention of the pollution of rivers.

Inspector.—J. W. Young, B.A., B.Sc. (Lond.).

Fishery Board for Scotland (Scientific Investigations).

Chemists.—H. Thompson, M.A., B.Sc.; J. B. Tait, B.Sc.

Scottish Marine Biological Association.

(Millport, Bute.)

Chemist.—A. P. Orr, M.A., B.Sc. (Glas.), A.I.C.

THE BOARD OF TRADE.

(Great George Street, London, S.W.1.)

The chemical work in connection with the Mercantile Marine Department of the Board of Trade and the Corporation of Trinity House is undertaken at the Government Laboratories.

The staff of the Industries and Manufactures Department includes chemists: J. F. Ronca, O.B.E., A.R.C.S., A.I.C., Director of Gas Administration; L. M. Nash, F.I.C., Senior Staff Officer.

The Patent Office (*see* p. 90).

THE MINISTRY OF TRANSPORT.

Roads Department.

(HEADQUARTERS : Whitehall Gardens, S.W.1.)

(RESEARCH STATION : Harmondsworth, Colnbrook, Middlesex.)

The Roads Department of the Ministry of Transport includes a section responsible for experimental and research work into the materials and types of construction of roads and road surfaces, and for testing the effect of various classes of vehicles on various types of roads. There is attached to this section an Experimental Station at Harmondsworth, near Colnbrook, Middlesex, with an adjoining stretch of road for experimental purposes.

A limited number of chemists is engaged in the laboratory of the Station in chemical investigations into materials—mainly tars and bitumens, used in road construction—including R. Preston, M.Sc. (Liv.), A.I.C., and L. J. Chalk, M.Sc. (Lond.), A.I.C.

THE TREASURY.

(Whitehall, London, S.W.1.)

The Royal Mint (*see* p. 92).

THE WAR OFFICE.

(Whitehall, London, S.W.1.)

Royal Arsenal, Woolwich.

Department of the War Department Chemist.

War Department Chemist.—G. H. Perry, O.B.E., B.Sc. (Lond.), A.R.C.S., F.I.C.

Deputy War Department Chemist.—A. V. Elsden, M.B.E., B.Sc. (Lond.), F.I.C.

Senior Chemists.—A. E. Garland, M.B.E., B.Sc. (Lond.), A.R.C.S., F.I.C.; H. Shankster, F.I.C.; J. F. Stansfield, M.B.E., A.R.C.S., A.I.C.; J. A. F. Wilkinson, B.Sc. (Lond.), F.I.C.

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Chemists, Class 2.—S. C. Atkinson, B.Sc. (Lond.), A.I.C.; H. G. Beard, A.I.C.; W. H. Bickle, B.Sc. (Lond.), A.I.C.; W. R. Crombie, A.I.C.; J. Dexter, M.A. (Cantab.), B.Sc. (Lond.), A.I.C.; S. A. de Lacy, A.I.C.; B. C. James, B.Sc. (Lond.), A.R.C.S., A.I.C.; K. MacIntyre, A.R.C.S., A.I.C.; S. A. Nickelson, B.Sc. (Lond.), A.I.C.; P. J. Udall, Ph.D. (Liv.), A.I.C.

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Chemists Class 2 and senior ranks are established. The minimum qualification for Chemists Class 2 is the Associateship of the Institute of Chemistry, followed by two years' approved experience. Chemists Class 2 are appointed by the Civil Service Commissioners; vacancies in the higher classes are filled by promotion.

Junior Assistants are appointed by the W.D. Chemist, the minimum qualification being a second class honours University degree, or its equivalent.

A Chief Laboratory Assistant and a number of laboratory assistants (Grades 1 and 2) carry out simpler repetition work; matriculation standard is the minimum qualification.

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Deputy Superintendent.—G. O. Boase, C.B.E., p.a.c., Colonel.

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Deputy Director.—R. C. Farmer, O.B.E., M.Sc. (Birm.), Ph.D. (Würzburg), D.Sc. (Liv.), F.I.C.

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G. Gallie, B.Sc. (Edin.), A.I.C.; E. Goodwin, O.B.E., M.A. (Cantab.); J. S. Grew, M.Sc. (Birm.); P. W. B. Harrison, Ph.D. (Lond.), A.I.C.; G. L. Hutchison, B.Sc. (Lond.), F.I.C.; F. James, M.Sc. (Birm.), A.I.C.; W. W. Jones, M.Sc. (Wales); H. A. Mayes, Ph.D. (Lond.); E. H. Mott, B.Sc. (Lond.), A.I.C.; S. V. Peyton, M.Sc. (Lond.), A.I.C.; R. A. Pratt, B.Sc. (Lond.), A.I.C.; A. D. R. Pullman, B.Sc. (Manc.), F.I.C.; E. C. Roper, B.Sc. (Lond.), A.I.C.; E. T. Saunderson, A.I.C.; J. S. Skelton, B.Sc. (Lond.), A.R.C.S., A.I.C.; W. E. Slater, M.Sc. (Manc.), A.I.C.; J. A. Sutcliffe, B.A. (Oxon.); C. D. Thomas, B.Sc. (Lond.); R. A. Woollven, A.R.C.S.

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Head of Branch.—R. Genders, M.B.E., M.Met., F.I.C.

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Metallurgists.—A. N. Coomes, A.I.C.; E. I. Thorne, A.I.C.; H. H. Smith; a number of assistants.

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Superintendent.—P. J. Hinks, O.B.E., A.R.C.S., F.I.C.

ROYAL GUNPOWDER FACTORY, WALTHAM ABBEY.

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Chemists-in-Charge.—H. A. Phillips, F.I.C.; R. C. Bowden, Ph.D. (Bris.), F.I.C.; P. G. Knapman, B.Sc., (Lond.), F.I.C.; R. P. Evans, B.Sc.

Chemists.—H. Sellick, B.Sc. (Lond.), A.I.C.; R. C. Tucker, B.A.; a number of assistants.

ROYAL SMALL ARMS FACTORY, ENFIELD LOCK.

A number of assistants.

SUPPLY, MEDICAL AND ROYAL ARMY CLOTHING DEPARTMENTS.

Chemical investigations for these departments are conducted at the Government Laboratory (*see* p. 58).

CHEMICAL DEFENCE RESEARCH DEPARTMENT.

(14, Grosvenor Gardens, London, S.W.1.)

The Chemical Defence Research Department conducts research and experiments required by the three Services in connection with chemical defence problems.

The following list contains the names of the permanent members of the civilian scientific staff at Headquarters, the Experimental Station, Porton, and the Research Establishment, Sutton Oak.

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Assistant Superintendent.—A. T. Sumner, Major, M.C., B.Sc. (Lond.), A.I.C. (retired).

Senior Assistants.—L. B. Turner; G. H. Welsford, Major, A.I.C. (R. of O.); E. Wheeler, M.B.E., A.C.G.I., F.I.C. (attached to Directorate of Artillery, War Office).

Junior Assistants.—L. B. Timmis, M.Sc.Tech., A.I.C.; A. C. Brookes, M.Sc. (Lond.), A.K.C.; A. Y. Stephen; V. E. S. Mitchell, M.Sc. (Lond.), A.I.C.; E. E. Haddon, B.Sc. (Lond.), A.I.C.

EXPERIMENTAL STATION, PORTON.

Director of Experiments.—N. K. Johnson, M.Sc. (Lond.), A.R.C.S.

Superintendents.—W. C. Ball, Major, O.B.E., M.A. (Oxon.), Sc.D. (T.C.D.), F.I.C. (retired); J. A. Sadd, Major, O.B.E., B.Sc. (Lond.), A.C.G.I. (retired); H. G. Mason, Capt., M.B.E., B.Sc. (Manc.), (retired); F. Fairley, Surg.-Comm. R.N., M.B., B.Sc. (Glas.), (retired).

Assistant Superintendents.—A. E. Kent, Lieut.-Col., D.S.O., M.C. (R. of O.), R.E.; R. Kingan, A.I.C.; J. D. Fry, M.Sc. (Bris.); W. D. Seaton, A.I.C.; L. H. Parker, M.A. (Cantab.), D.Sc. (Lond.), F.I.C.; E. L. Davies, M.Sc. (Wales).

Senior Assistants.—C. Williams, M.B.E., B.Sc. (Lond.); A. E. Childs, B.A., B.Sc. (Cantab.); A. C. Peacock, B.A. (Oxon.), A.I.C.; I. D. Waddell; W. A. Salt, Major, M.C., B.Sc.Tech. (Manc.), A.I.C. (R. of O.); J. P. Dowdall, B.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C.; E. W. Bateman, B.Sc. (Lond.), A.I.C.; H. L. Green, M.A. (Cantab.); F. W. Helsby, B.Sc. (Lond.), A.I.C.

Assistants.—A. H. Ford Moore, B.A. (Cantab.); T. C. Nugent, M.Sc. (Liv.), A.I.C.; E. A. Perren, Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C.; G. H. Tatner, M.Sc. (Lond.), A.I.C.; H. Gilmour, A.R.T.C., F.I.C.; H. English, B.A. (Cantab.); E. Richards, Eng.-Lieut.-Cdr., O.B.E., R.N. (retired); W. C. Busbridge, M.A. (Cantab.); E. W. Lanfear, B.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C.; S. A. Mumford, M.Sc. (Lond.), A.I.C.; F. E. Wild, B.Sc. (Birm.), A.I.C.; J. W. C. Phillips, Ph.D. (Liv.), A.I.C.; J. A. Bannerman, B.Sc. (Bris.); G. V. Sivewright, Lieut.-Cdr. R.N., B.A. (Cantab.), (retired); C. G. Trotman, B.A. (Oxon.); E. Harris, Eng.-Cdr., R.N. (retired); G. Davies; J. F. S. Stone, B.A., D.Phil. (Oxon.); J. W. Martin, M.B.E., B.Sc. (Glas.), A.I.C.; A. C. Best, B.Sc. (Wales); T. J. Spears, B.Sc. (Lond.), A.I.C.; L. T. D. Williams, B.Sc. (Lond.), A.R.C.S.; C. W. Wheeler, B.Sc. (Lond.); A. Bellingham Smith; A. E. Bradshaw, B.Sc. (Manc.); H. Garnett, M.Sc. (Leeds); C. G. Sutton, B.Sc. (Oxon. and Wales); A. S. G. Hill, B.Sc. (Bris.).

Junior Assistants.—S. H. Fryer; A. L. Manson, B.Sc. (Edin.), A.I.C.; G. Wortley, B.A., B.Sc. (Oxon.); W. R. Lane, B.Sc. (Birm.); D. P. Davies, B.Sc. (Wales), M.Sc. (Bris.); L. Spencer, M.Sc. (Liv.), A.I.C.; G. W. Chester, M.Sc. (Liv.); C. M. Blow, B.Sc. (Lond.), A.I.C.

RESEARCH ESTABLISHMENT, SUTTON OAK, ST. HELENS, LANCS.

Superintendent.—F. E. Dickinson, B.Sc.

Senior Assistant.—N. A. Brodrick-Pittard, Ph.D. (Berne), A.I.C.

Assistants.—D. Eccleshall, B.Sc. (Birm.); D. H. Finn, B.Sc. (Birm.), A.I.C.; R. Owens, Ph.D. (Liv.), A.I.C.; J. Williams; G. V. Francis, Ph.D. (Liv.), A.I.C.

THE MILITARY COLLEGE OF SCIENCE.

(Red Barracks, Woolwich, London, S.E.18; and Royal Arsenal, Woolwich, London, S.E.18.)

The functions of the College are:—The technical training of officers and soldiers in science as applied to artillery and mechanised traction, and in the use, care and preservation of artillery material and small arms, the instruction and trade testing of artificers to be employed upon such duties, and the education and training of apprentice tradesmen, etc.

CHEMISTRY AND METALLURGY BRANCH.

Professor.—K. C. Browning, M.A. (Cantab.), F.I.C.

Assistant Professor.—R. C. Gale, A.C.G.I., F.I.C.

Senior Lecturer.—J. R. H. Whiston, M.A., B.Sc. (Oxon.).

Junior Lecturer.—J. W. Farmery, M.A. (Cantab.), D.I.C., A.I.C.

THE ROYAL ARMY MEDICAL COLLEGE.

(University of London.)

(Grosvenor Road, London, S.W.18.)

HYGIENE AND CHEMICAL DEPARTMENT.

Professor of Hygiene.—Lt.-Col. R. B. Ainsworth, D.S.O., O.B.E., R.A.M.C.

Assistant Professor.—Major D. T. Richardson, M.C., M.B., R.A.M.C.

Analyst.—Major S. Elliott, O.B.E., T.D., B.Sc. (Lond.), F.I.C., London Regt.

THE ROYAL MILITARY ACADEMY—WOOLWICH.

SCIENCE STAFF.

Professor.—W. Makower, M.A., D.Sc. (Lond.).

Lecturers.—R. P. Tulloch, A.R.S.M.; J. W. Stevenson, Ph.D. (St. Andrews); Capt. H. Stanley, B.Sc. (Lond. and Bris.), F.I.C.

ROYAL MILITARY COLLEGE.

(Camberley, Surrey.)

Instructor in Chemistry.—H. Yeats, B.Sc. (Lond.), A.I.C., Lieut., A.E. Corps.

WATER, SEWAGE, RIVERS BOARDS, &c.

WATER.

Under the Metropolitan Water Board (p. 66), reference is made to the Metropolis Water Act, 1902. Other Acts of Parliament dealing with water supply are the Waterworks Clauses Acts, 1847 and 1863, the Public Health Act, 1875, the Public Health (Water) Act, 1878, and the Local Government Act, 1894. These Acts empower local authorities, subject to certain restrictions, to provide a supply of water for their districts, and make it their duty to ensure that dwelling houses have a proper supply. The authorities are required also to take steps for the periodical inspection of the water supply within their respective districts, and they are concerned with the closing of public or private wells reported to be polluted. In connection with the administration of these Acts, therefore, consulting and analytical chemists are frequently retained.

The following appointments have been reported:—

WATER EXAMINERS.—ENGLAND.

COUNTY.	BOROUGH.	WATER EXAMINERS.
BEDFORD	Bedford	N. Greenshields.
BERKS	New Windsor	Sir William R. Smith, M.D. (Aberd.), D.Sc. (Edin.), F.I.C.; J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.; J. F. Beale, B.A., M.R.C.S.
"	Reading	L. C. Walker.
BUCKS.	Aylesbury	A. Lee.
CHESHIRE	Birkenhead	D. M. Mathieson, M.D. (Edin.).
"	Chester	D. Rennet, M.B.E., M.D. (Aberd.), D.P.H.
"	Macclesfield	S. Ernest Melling, F.I.C.
"	Wallasey	— Millington.
CORNWALL	Penzance	C. G. Moor, M.A. (Cantab.), F.I.C.; William Partridge, F.I.C.
CUMBERLAND	Carlisle	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
DERBY	Derby	John White, F.I.C.
"	Glossop	
DEVON	Bideford	A. E. Brown, B.Sc. (Lond.), F.I.C.
"	Exeter	Thomas Tickle, B.Sc. (Lond.), F.I.C.
DURHAM	Darlington	Cyril J. H. Stock, B.Sc. (Dun.), F.I.C.
"	Gateshead	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
"	South Shields	
"	West Hartlepool	C. J. H. Stock, B.Sc. (Dun.), F.I.C.

COUNTY.	BOROUGH.	WATER EXAMINER.
ESSEX		J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.; J. F. Beale, B.A., M.R.C.S.
"	Chelmsford (Water Works)	*Analyst and Bacteriologist.*—B. W. J. Warren, F.I.C.
"	Colchester	W. F. Corfield, M.D., D.P.H.
GLOUCESTER	Bristol	Edward Russell, B.Sc. (Lond.), F.I.C.
"	Cheltenham	Rowland H. Ellis, F.I.C.
"	Gloucester	
"	Stroud	
KENT	Canterbury	Ernest M. Hawkins, F.I.C.
"	Dover	
"	Gillingham	
"	Gravesend	
"	Maidstone	C. R. Oliver, M.D.
"	Margate	A. G. R. Foulerton, O.B.E., F.R.C.S.
"	Ramsgate	Ernest M. Hawkins, F.I.C.
LANCASHIRE	Bacup	T. R. Hodgson, M.A. (Cantab. & Dub.), F.I.C.
"	Blackburn	G. W. F. Holroyd, M.A. (Oxon.), F.I.C.
"	Bolton	Harry Hurst, B.Sc. (Lond.), F.I.C.
"	Burnley	F. Maudsley, B.Sc. (Vict.), F.I.C.
"	Colne	—
"	Liverpool	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
"	Rochdale	Thomas Stenhouse, F.I.C.
"	Salford (Rivers Department)	S. E. Melling, F.I.C.
"	Southport	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
"	St. Helens	H. J. Evans, B.Sc. (Wales), F.I.C.
"	Warrington	F. G. Ruddock, F.I.C.
"	Wigan	S. E. Melling, F.I.C.
LEICESTER		S. F. Burford, F.I.C.
LINCOLN		George McGowan, Ph.D. (Leipzig), F.I.C.
MIDDLESEX (ex-Metropolitan)		Stafford Aston, F.I.C.
MONMOUTH	Newport	J. Howard Jones.
NORFOLK	Great Yarmouth	W. Lincolne Sutton, F.I.C.
"	Norwich	
NORTHAMPTON	Northampton	E. Shaw.
"	Peterborough	W. Elborne, M.A. (Cantab.).
NORTHUMBERLAND	Newcastle-on-Tyne	J. T. Dunn, D.Sc. (Dun.), F.I.C.; H. C. L. Bloxam, F.I.C.
NOTTINGHAM	Newark	S. R. Trotman, M.A. (Cantab.), F.I.C.
OXFORD	Banbury	J. A. Voelcker, M.A. (Cantab.), Ph.D. (Giessen), B.A., B.Sc. (Lond.), F.I.C.
"	Oxford	J. F. Richardson, M.A.

COUNTY.	BOROUGH.	WATER EXAMINERS.
SOMERSET	Bath	H. F. Barke, B.Sc. (Lond.), F.I.C.
SOUTHAMPTON		Sydney Emsley, B.Sc. (Vict.), F.I.C.
Isle of Wight	Ryde	——
STAFFORD	Burton-upon-Trent	J. H. Cowie, D.P.H.
SUFFOLK	Ipswich	W. Lincolne Sutton, F.I.C.
SURREY	Croydon	R. A. Dibdin.
(ex-Metropolitan)	Godalming	J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.
	Guildford	J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.; J. F. Beale, B.A., M.R.C.S.
	Dorking	
SUSSEX	Brighton	D. Forbes, M.B.E., M.D.
WARWICK	Birmingham	H. H. Bagnall, B.Sc. (Birm.), F.I.C.; H. G. M. Henry, M.D., B.S. (Lond.).
"	Coventry	C. J. Lewis, M.D., D.Sc.
"	Warwick	W. T. Rigby, F.I.C.
WILTSHIRE	Salisbury	D. Thornton.
"	Swindon	W. R. Bird.
WORCESTER	Kidderminster	J. Hawcroft.
"	Worcester	W. Ransom.
YORKSHIRE		
East Riding	Bridlington	J. A. Foster, F.I.C.
"	Kingston-on-Hull	C. B. Newton.
North Riding		J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.
"	Scarborough	S. Fox Linton, M.Sc., D.P.H.
West Riding	Bradford	F. W. Richardson, F.I.C.
"	Dewsbury	
"	Doncaster	John Evans, F.I.C.
"	Halifax	H. T. Lea, M.Sc. (Birm.), F.I.C.
"	Harrogate	A. Woodmansey, M.Sc. (Leeds), A.I.C.
"	Huddersfield	W. D. Scouller, M.Sc. (Leeds), A.I.C.
"	Leeds	F. C. Heppold.
"	Ossett	A. Chaston Chapman, F.I.C., F.R.S.
"	Rotherham	John Evans, F.I.C.
"	Wakefield	E. M. Chaplin, Ph.D. (Würzburg), F.I.C.

WATER EXAMINERS.—WALES.

COUNTY.	BOROUGH.	WATER EXAMINERS.
CAERNARVON	Conway	F. A. Delamotte.
CARDIGAN	Aberystwyth	L. Jones.
GLAMORGAN	Cardiff	John H. Sugden, M.Sc. (Vict.), F.I.C.
"	Swansea	C. A. Seyler, B.Sc. (Lond.), F.I.C.; A. F. Sladden.
PEMBROKE	Haverfordwest	H. J. Evans, B.Sc. (Wales), F.I.C

ROYAL COMMISSION ON SEWAGE DISPOSAL.

The Royal Commission on Sewage Disposal was appointed on May 7th, 1898, to inquire into and report on the following matters:—1. (i) What method or methods of treating and disposing of sewage (including any liquid from any factory, or manufacturing process) may properly be adopted, consistently with due regard for the requirements of the existing law, for the protection of the public health, and for the economical and efficient discharge of the duties of local authorities; and (ii) if more than one method may be so adopted, by what rules, in relation to the nature or volume of sewage, or the population to be served, or other varying circumstances or requirements, should the particular method of treatment and disposal to be adopted be determined; and 2. To make any recommendations which may be deemed desirable with reference to the treatment and disposal of sewage.

The Royal Commission was empowered to examine witnesses and to visit and inspect such places as might be deemed expedient for the more effectual carrying out of the above purposes. In connection with the systematic investigation which the Commission resolved to undertake, a number of officers, including chemists, were appointed.

The Commission published ten reports, with numerous appendices, including minutes of evidence, reports on special investigations, methods of treating and disposing of sewage and effluents, and methods of chemical analysis. Owing to the war, it was brought to an end in November, 1914, before the further projected work on trade effluents and their effect on river water could be concluded.

RIVERS POLLUTION PREVENTION.

Following the labours of the Royal Commission on Sewage Disposal, which were brought to an end in 1914, no steps were taken by the Government to give legislative effect to the recommendations of the Commission. As a result of pressure brought to bear upon the Minister of Agriculture and Fisheries, in the interests of fisheries in 1921, the Minister appointed a Standing Committee on River Pollution—(1) to evolve agreed provisions as to pollution in the Salmon and Freshwater Fisheries Bill; (2) to secure the effective working thereof; (3) to collect scientific information as to the purity of rivers; and (4) to assist the Ministry in the discovery of remedial measures.

A number of rivers have been surveyed and a considerable amount of valuable information with regard to pollution from various sources has been obtained. After negotiations between industrial, fishery and other interests, clauses relating to pollution were embodied in the Salmon and Freshwater Fisheries Act, 1923.

The efforts of the Committee towards the discovery of remedial measures for the prevention of pollution were not as effective as could have been desired, and the fishery interests, with public health and water supply interests, combined in sending a deputation to the Government in February, 1927. As a result, the Government decided that a Joint Advisory Committee on Rivers Pollution should be appointed, jointly by the Ministers of Health and of Agriculture and Fisheries, and that a Water Pollution Research Board should be set up as part of the organisation of the Department of Scientific and Industrial Research (see p. 93).

The Joint Advisory Committee was "to consider and from time to time to report on the position with regard to the pollution of rivers and streams and on any legislative, administrative or other measures which appear to them to be desirable for reducing such pollution," and the terms of reference to the Water Pollution Research Board were—(1) to submit to the Committee of the Privy Council for Scientific and Industrial Research from time to time, schemes for research on the prevention of the pollution of rivers and other sources of water supply by industrial effluents and sewage, and on any relevant matters affecting the purity of water supplies; (2) to supervise the execution of approved investigations.

In their first report the Joint Advisory Committee on Rivers Pollution enumerated the legislative enactments dealing with rivers pollution and recommended the establishment of Rivers Boards. In their second report the Committee recommended an amendment of the law with a view to facilitating the reception of trade effluents into the sewers of the local Sanitary Authorities.

The Water Pollution Research Board has issued three Annual Reports and has arranged for the preparation of monthly summaries of current literature containing a number of abstracts of scientific and technical papers under the following headings:—Water supplies, sewage, trade waste waters, river pollution, and miscellaneous. These summaries are now published by H.M. Stationery Office.

The Board keeps in close touch with the research activities of Government Departments, Local Authorities, Universities and Colleges, industrial and other organisations, firms and individuals, relating to the subjects within its purview.

In the field of sewage disposal the various problems connected with the activated sludge process are being attacked by scientific workers at the London School of Hygiene. The colloids in sewage are being investigated by scientific workers at University College, London. Workers attached to the Rothamsted Experimental Station have been engaged on the problem of dealing with the waste waters discharged from beet sugar factories. Careful consideration of the matter and visits to several factories have led the Board to the conclusion that the industry can be carried on without discharging polluting waste waters, but experimental work on a semi-commercial scale carried out by the Board at one of the beet sugar factories has provided basic data for the construction of plant for the adequate purification of waste waters should it be considered advisable to produce these.

In the field of water supply researches have been initiated into the base exchange, or zeolite process, of water softening and into methods of treating water to prevent plumbo-solvency and corrosion of mains. These researches are being carried out at the Department's Chemical Research Laboratory at Teddington.

Early in their deliberations the Board were impressed by the need for biological and chemical information regarding rivers, and made careful selection of a river which would be suitable for general, biological, chemical and hydrographical survey. Such a survey has now been in progress for nearly two years on the River Tees. This work naturally divides itself into an upper river, or non-tidal water, investigation, and an estuary, or tidal water, investigation. Scientific workers attached to the Ministry of Agriculture and Fisheries are engaged in making daily observations in the upper reaches, and others under the supervision of the Marine Biological Association of Great Britain are engaged on the estuary work.

RIVERS BOARDS, ETC.

Formed under the Local Government Acts, 1888 *and* 1894.

Under the Local Government Act, 1888, a number of Joint Committees and Rivers Boards were constituted, and these authorities have done much useful work in enforcing the treatment of sewage and of polluting liquids and trade refuse, and in carrying out investigations in this connection.

Under the Local Government Act, 1894 (Section 57) District Councils may appoint a Joint Committee for any purpose in respect of which they are jointly interested, and this provision has been held to apply to the subject of Rivers Pollution Prevention.

Under the Rivers Pollution Prevention Act, it is an offence to discharge any noxious matter into a stream, river, watercourse, canal, or lake, or into any portion of the sea or of a tidal river, which may have been declared by the Ministry of Health to be a stream for the purposes of the Act.

The Mersey and Irwell and the Ribble Joint Committees were formed under the Local Government Act, 1888, for the purpose of enforcing the provisions of the Rivers Pollution Prevention Act, 1876, and the Mersey and Irwell Joint Committee obtained extended powers under the Mersey and Irwell Joint Committee Act, 1892; the West Riding of Yorkshire Rivers Board was originally set up as a Joint Committee under the Local Government Act, 1888, for the purpose of enforcing the provisions of the Rivers Pollution Prevention Act, 1876, and subsequently obtained additional powers under the West Riding of Yorkshire Rivers Act, 1894, under which Act the name of the Joint Committee was changed to West Riding of Yorkshire Rivers Board. The River Tame Basin Joint Committee was set up under the provisions of the Local Government Act, 1894. The Lea Conservancy Board and the Thames Conservancy Board operate under special Acts of Parliament.

LEE CONSERVANCY.

(Head Office: Surrey House, Victoria Embankment, London, W.C.2.)

Consulting and Analytical Chemist.—W. C. Young, F.I.C., Laboratory, 24, Aldgate, E.C.3.

MERSEY AND IRWELL JOINT COMMITTEE.

(84, Mosley Street, Manchester.)

The Committee was formed in 1891, and has jurisdiction over so much of the river Mersey and any tributary thereof, above the point of intersection by the southern boundary of the borough of Warrington, as passes through the counties of Lancaster and Chester, or between them, or through or by any of the county boroughs of Bolton, Bury, Manchester, Oldham, Rochdale, Salford and Stockport. The powers of the Committee were modified and enlarged under the Mersey and Irwell Joint Committee Act, 1892.

Scientific Adviser.—Frank Scudder, F.I.C.

RIBBLE JOINT COMMITTEE.

(2, Stanley Place, Preston, Lancs.)

The Committee was formed in 1891, and has jurisdiction over so much of the river Ribble, and any tributary thereof, and of the rivers Darwen and Douglas, and the streams running into Crossens Channel, as passes through the county of Lancaster, or through or by the county boroughs of Blackburn, Burnley, Preston and Wigan.

Chief Inspector and Chemist.—Edward Halliwell, F.I.C.

RIVER TAME BASIN JOINT COMMITTEE.

The Committee is an inspecting body for drawing the attention of local authorities to cases of stream pollution.

THAMES CONSERVANCY.

(2 and 3, Norfolk Street, Strand, London, W.C.2.)

Chemical Adviser and Analyst.—H. F. Stephenson, A.R.C.S., F.I.C.

WEST RIDING OF YORKSHIRE RIVERS BOARD.

(71, Northgate, Wakefield.)

The Board was formed in 1893, and has jurisdiction over so much of every river and tributary thereof as passes through or by the county of the West Riding of Yorkshire, and through or by any of the county boroughs of Barnsley, Bradford, Dewsbury, Doncaster, Halifax, Huddersfield, Leeds, Rotherham, Sheffield and Wakefield. The Board administers the Rivers Pollution Prevention Acts, 1876 and 1893, and the West Riding of Yorkshire Rivers Act, 1894.

Chief Inspector.—J. H. Garner, B.Sc. (Lond. and Leeds), F.I.C.
Biological Assistant.—J. W. H. Johnson, B.Sc. (Vict.), M.Sc. (Leeds), F.I.C.

Assistant Chemists.—Miss M. A. Myers, B.Sc. (Leeds); J. M. Wishart, B.Sc. (Edin.), A.I.C.; C. Hammerton, B.Sc. (Lond.), A.I.C.

DRAINAGE BOARDS AND SEWAGE WORKS.

The Authorities for Sewage Works are the Local Authorities under the Public Health Acts, viz.: Borough and District Councils, and Rural District Councils, in England, Wales and Ireland, and District Committees, Town Councils, and Burgh Commissioners in Scotland. In some cases also Joint Sewerage Boards, such as have been mentioned in previous pages, have been established for certain districts. These Authorities are empowered to construct works for the disposal of sewage, and in the exercise of this power, they are required to avoid a contravention of the provisions of the Rivers Pollution Prevention Acts, or the creation of nuisance.

Appointments of chemists have been made in connection with the following Drainage Boards and Sewage Works:—

	DRAINAGE BOARDS AND SEWAGE WORKS.	CHEMISTS.
ACCRINGTON ..	Accrington and Church Outfall Drainage Board ..	J. Boothman.

	Drainage Boards and Sewage Works.	Chemists.
Ashton-under-Lyne	Sewage Disposal Works, Plantation Farm	J. P. Todd, B.Sc.
Ashvale (Surrey) ..	Aldershot, Sandhurst, Gosport, and Pirbright, War Department Sewage Works	A. S. Jones, Lieut.-Col., V.C.
Aylesbury ..	Sewage Works ..	*Consulting.*—J. A. Voelcker, B.A., B.Sc. (Lond.), M.A. (Cantab.), Ph.D. (Giessen), F.I.C.
Banbury ..	..	
Barnsley ..	Sewage Works ..	*Manager and Chemist.*—H. D. Bell, F.I.C.
Bedford ..	Sewage Disposal Works, Summerhouse Hill	N. Duxbury.
Birmingham ..	Birmingham, Tame, and Rea District Drainage Board	F. R. O'Shaughnessy, A.R.C.S., F.I.C.; S. Housley, B.Sc. (Birm.), A.I.C.; N. Salt.
Blackburn ..	Samlesbury Sewage Works, nr. Preston	R. Eaton (Manager); H. G. Leigh.
Bolton ..	Hacken Sewage Works	W. E. Speight (Chemist and Manager).
Bootle ..	Sewage Works ..	W. H. Roberts, M.Sc. (Vict. & Liv.), F.I.C.
Bradford ..	Sewage Disposal Dept.	*Chief Chemist.*—J. A. Reddie, F.I.C.
Burnley ..	Sewage Works ..	F. Maudsley, B.Sc. (Vict.), F.I.C.
Burton-on-Trent	Corporation Sewage Farm, Etwall.	*Consulting.*—G. C. Matthews, B.Sc. (Lond.), A.I.C.
Bury	Sewage Works ..	W. Scott.
Canterbury ..	Corporation Irrigation Works	*Consulting.*—Ernest M. Hawkins, F.I.C.
Carlisle ..	Sewage Works ..	C. J. H. Stock, B.Sc. (Dun.), F.I.C.
Chester ..	Sewage Purification Works, Sealand	—
Chesterfield	Sewage Works ..	S. Thornhill.
Coventry ..	Sewage Works ..	C. B. O. Jones.
Croydon ..	Beddington and South Norwood Farms	J. Farmer (Manager).
Derby	Sewage Works ..	G. E. Pool, B.Sc. (Lond.), F.I.C.; H. W. Evans.

	DRAINAGE BOARDS AND SEWAGE WORKS.	CHEMISTS.
DEWSBURY ..	Sewage Works ..	E. H. Staynes.
DUBLIN ..	Corporation Main Drainage Works	*Resident Chemist.*—J. F. McCann.
DUDLEY ..	Sewage Works ..	Harry Silvester, B.Sc. (Birm.), F.I.C.
EXETER.. ..	Sewage Disposal Works	*Consulting.*—Thomas Tickle, B.Sc. (Lond.), F.I.C.
FARNHAM ..	Sewage Works ..	G. Brown, D.Sc.
FRIERN BARNET	Sewage Works ..	*Consulting.*—H. R. Kenwood, M.B. (Edin.).
GLASGOW ..	Corporation Sewage Works	*Consulting.*—F. W. Harris, F.I.C.
	Dalmuir Works	William L. Johnston.
	Dalmarnock Works	George Dale.
	Shieldhall Works	A. G. M. Archibald.
GLOSSOP ..	Sewage Works ..	John White, F.I.C.
GRAVESEND ..	Sewage Works ..	*Consulting.*—Ernest M. Hawkins, F.I.C.
GUILDFORD ..	Sewage Disposal Works, Bellfield	*Consulting.*—J. C. Thresh, D.Sc. (Lond.), M.D. (Vict.), F.I.C.; J. F. Beale, B.A., M.R.C.S.
HALIFAX ..	Sewage Works ..	J. H. Edmondson.
HARROGATE ..	Sewage Works ..	J. R. Lee.
HUDDERSFIELD	Corporation Sewage Works	W. D. Scouller, M.Sc. (Leeds), A.I.C. (Manager). *Research Chemist.*—J. H. Spencer, B.A., B.Sc. (Oxon.), A.I.C.
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KINGSTON-ON-THAMES	Sewage Works ..	P. G. Lloyd (Manager).
LEEDS	Corporation Sewage Works	John T. Thompson, M.Sc. (Leeds), F.I.C.
LEEK U.D.C. ..	Sewage Disposal Dept.	S. E. Melling, F.I.C.
LEICESTER ..	Beaumont Leys Sewage Disposal Works	J. A. Christian, M.Sc.Tech. (Manc.), A.I.C.
LEIGH (Lancs.)..	Sewage Works ..	J. W. Saville.
LEYTON.. ..	Sewage Works ..	*Consulting.*—Walter Robins, B.Sc. (Lond.), F.I.C.

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LONDON ..	(*See* London County Council, p. 64.)	
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"	Davyhulme and Withington	*Resident Chemist.* — C. Jepson, M.Sc. (Manc.), A.I.C. *Assistant Chemist.*—E. E. Jones, M.Sc. (Wales), A.I.C.
"	Sewage Works ..	*Research Chemist.*—W. Lockett, M.Sc. (Manc.). *Chemist's Assistants.*— H. E. Pollard, A.M.C.T., A.I.C.; R. W. Sutton, B.Sc. (Lond.), F.I.C.; A. Bradwell.
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OLDHAM ..	Corporation Sewage Works	J. Taylor.
PETERBOROUGH	Sewage Works ..	*Consulting.* — William Elborne, M.A. (Cantab.).
READING ..	Sewage Works ..	H. Wilson, A.M.C.T.
ROCHDALE ..	Corporation Sewage Works	R. J. Bramhall, M.Sc. (Vict.), A.I.C.
ROTHERHAM ..	Sewage Works ..	J. H. Kershaw (Manager and Chemist).
ST. ALBANS ..	City Sewage Outfall Works	*Consulting.*—A. Chaston Chapman, F.I.C., F.R.S.
SALFORD ..	Corporation Sewage Works, Weaste	*Consulting.*—S. E. Melling, F.I.C.
SHALFORD ..	Unstead Farm ..	*Consulting.* — Edward Hinks, M.B.E., B.Sc. (Lond.), F.I.C.
SHEFFIELD ..	Corporation Sewage Disposal Department	John Haworth, M.B.E., F.I.C. (General Manager and Chemist).
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STAINES ..	Sewage Works ..	John T. Hall (Manager and Chemist).
STOCKPORT ..	Sewage Disposal Works, Cheadle Heath	A. R. Ward.
STOKE-ON-TRENT	Sewage Disposal Works	J. N. Lovett.

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WALSALL ..	Sewage Works ..	*Consulting.* — F. E. Thompson, A.R.C.S., F.I.C.
WARWICK ..	Sewage Works ..	W. T. Rigby, F.I.C.
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WEST BROMWICH	Friar Park Sewage Farm	*Consulting.*—Harry Silvester, B.Sc. (Birm.), F.I.C.
WIGAN ..	Sewage Works ..	M. Morris.
WIMBLEDON ..	Sewage Disposal Works	*Consulting.* — J. H. Johnston, M.Sc. (Vict.)
WOLVERHAMPTON	Sewage Works ..	William Clifford, A.R.C.Sc.I., (Manager and Chemist).
WORCESTER ..	Sewage Works ..	*Analyst.*—C. C. Duncan, F.I.C.

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For Medical and Dental Colleges and Schools, *see* p. 151; Agricultural, *see* p. 155; Veterinary, *see* p. 159.

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Agricultural Chemistry.—*See* p. 155.

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Agricultural Chemistry.—*See* p. 155.

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Ardrossan	Ardrossan Academy	W. McCutcheon, B.A., B.Sc. (Lond.); J. M. Nairn, B.Sc.; A. N. Pennel, B.Sc.
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Assistant Lecturer.—R. S. Cahn, M.A. (Cantab.), D.Phil. Nat. (Frankfurt), A.I.C.

Agricultural Chemistry.—*See* p. 156.

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Barry (Glam.)	Technical School	D. W. Walters, B.Sc. (Wales).
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Belvedere (Kent)	Erith Technical College	G. B. Stones, M.Sc. (Manc.), A.I.C.; B. Hughes, B.Sc. (Manc.).
Bilston	Technical School	B. B. Andrew, B.Sc. (Leeds).
Birkenhead	Technical College	George Tate, Ph.D. (Würzburg), F.I.C.; G. S. Irving.
Birmingham	Aston Technical College	R. R. Butler, M.Sc. (Lond.), A.I.C.; Principal; W. B. Chamberlain; J. C. Hutton. B.Sc, (Lond.).
„	Handsworth Technical College	W. H. Hardaker, B.Sc. (Vict.), M.Sc. (Birm.); W. W. Sirman, B.Sc. (Lond.); L. G. Beresford, B.Sc. (Birm.).

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Assistant Lecturer in Dyeing.—A. N. Hay.

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" ..	Schools of Arts, Crafts and Technology†	R. Pask, M.A.

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Director of Nutritional Laboratory.—L. J. Harris, Ph.D. (Cantab.), D.Sc. Manc.), A.I.C.

Agricultural Chemistry, See p. 156.

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Cheltenham ..	Ladies' College ..	*See* p. 170.
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„	The Training College	F. W. Hooper, B.Sc. (Liv.), A.I.C.
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Clitheroe ..	Technical School	C. A. Ireland, M.Sc. (Vict.).
Coatbridge ..	Technical and Mining College	J. L. Bell, M.A., B.Sc. (Glas.), A.I.C.; R. Hunter, Ph.D. (Glas.); A. K. Honeyman, B.Sc. (Glas.), A.R.T.C.
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Colwyn Bay ..	Technical School	T. O. Griffiths, B.Sc. (Lond.), A.I.C.
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Dartford ..	Technical Institute	M. M. Eastwell, M.A. (Cantab.); J. Freeman.
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Head of Chemistry Department.—J. Yates, B.Sc. (Lond.), M.Sc. (Manc.), F.I.C.

Lecturers.—G. E. Pool, B.Sc. (Lond.), F.I.C.; A. Walton, M.Sc. (Manc.), A.I.C.

Dewsbury ..	Technical College†	H. Wright, B.Sc. (Birm.), Principal; W. S. Jaques, B.Sc. (Dun.); M. Salont; A. Bridgland.
Dudley (Worcs.)	Technical School	A. W. Gibson, B.Sc., Principal; F. C. Short, B.Sc.; R. A. Wilkes, B.Sc.; C. H. Newton.

DUNDEE: University College.* (University of St. Andrews.)

Professor of Chemistry.—A. McKenzie, M.A., D.Sc. (St. Andrews), Ph.D. (Berlin), F.I.C., F.R.S.

Lecturers and Assistants.—J. D. M. Ross, M.B.E., M.A., D.Sc. (Edin.). R. Roger, Ph.D. (St. Andrews), A.I.C.

Assistant.—Miss I. A. Smith, M.A., B.Sc., Ph.D. (St. Andrews).

Lecture Assistant.—J. Foggie.

Dundee ..	Technical College	C. W. Cochrane, B.Sc. (Edin.), A.I.C.
Dunfermline ..	Lauder Technical School	W. S. Byres, B.Sc. (St. Andrews) J. Lynn, M.A., B.Sc. (St. Andrews); C. D. Maule, M.A., B.Sc. (St. Andrews); J. W. S. Gemmell, M.A., B.Sc. (St. Andrews).
Durham ..	Johnston Technical School	J. Cleminson, M.Sc.; W. Dinning, B.Sc.; S. B. Graham, B.Sc.

DURHAM: The Science Laboratories of the Durham Colleges of The University.* (*For* Armstrong College, *see* Newcastle-upon-Tyne.)

Head of the Department of Science and Professor of Chemistry.—J. Irvine O. Masson, M.B.E., D.Sc. (Melb.), F.I.C.

Lecturers in Chemistry.—G. H. Christie, Ph.D. (Sheffield), A.I.C.; C. W. Gibby, Ph.D. (Lond.), A.I.C.; W. A. Waters, M.A., Ph.D. (Cantab.).

Eastbourne ..	Technical Institute	W. L. Vellender, B.Sc. (Lond.).

EAST HAM: TECHNICAL COLLEGE.†

Head of Chemical Department.—E. D. Griffiths, M.Sc. (Wales), F.I.C.

Lecturers in Pure Chemistry.—E. G. Churchill, M.Sc. (Sheffield), A.I.C.; L. J. Couzens, B.Sc. (Lond.), A.I.C.; E. C. J. Marsh, B.Sc. (Lond.), A.I.C.; G. Middleton, B.Sc. (Lond.), A.I.C.; A. G. Mussell, A.I.C.; J. A. Stubbs, M.Sc. (Lond.), A.I.C.; H. Toms, Ph.D. (Lond.), F.I.C.; G. P. Trasler, B.Sc. (Lond.); G. D. Tyler, B.A., B.Sc. (Lond.); F. Wallington, B.Sc. (Lond.); H. E. Wallsom, B.Sc. (Lond.).

Gas Distribution, etc.—S. T. Phillips.

Gas Engineering, etc.— ——

Oils, Fats and Waxes.—G. T. Bray, A.I.C.

Painters' Oils, etc.—T. D. Kerr.

EDINBURGH: HERIOT-WATT COLLEGE.*†

Professor.—A. Archibald Boon, D.Sc. (Edin.), F.I.C.

Assistant Professor and Lecturer in Metallurgical Chemistry.—J. Campbell Smith, B.Sc. (Edin.), A.I.C.

Lecturers and Demonstrators.—R. H. Hopkins, D.Sc. (Birm.), F.I.C.; J. Sandilands, F.I.C.; J. W. Ingham, M.Sc. (Lond.), F.I.C.; W. H. Craven, B.Sc. (Lond.), F.I.C.; R. G. M. Dakers, B.Sc. (Lond.), F.I.C.; H. H. Campbell, B.Sc. (Edin.), A.I.C.; H. B. Nisbet, B.Sc. (Edin.), F.I.C.; J. C. Henderson, (Pharmaceutics).

EDINBURGH: THE UNIVERSITY.*

Professor of Chemistry.—J. P. Kendall, M.A., D.Sc. (Edin.), F.R.S.

Reader.—J. E. MacKenzie, Ph.D. (Strasburg), D.Sc. (Edin.).

Lecturers.—S. A. Kay, D.Sc. (St. Andrews); H. G. Rule, Ph.D. (Münich), D.Sc. (Edin.); E. B. Ludlam, M.A. (Cantab.), D.Sc. (Liv.); J. B. Shoesmith, M.Sc. (Vict.), D.Sc. (Edin.), A.I.C.; J. A. V. Butler, D.Sc. (Birm.); T. R. Bolam, M.Sc. (Bris.), D.Sc. (Edin.); Miss C. C. Miller, D.Sc. (Edin.), A.I.C.

University Assistants.—Mrs. M. R. Bolam, Ph.D. (Edin.); W. F. Ehret, Ph.D. (N.Y.); N. Campbell, Ph.D. (Edin.); M. Ritchie, Ph.D. (Edin.); C. H. M. McCall, B.Sc. (Edin.); Miss B. M. Henderson, B.Sc. (Edin.); S. D. Forrester, Ph.D. (Edin.), A.I.C.; R. Shaw, Ph.D. (Edin.); W. C. Somerville, B.Sc. (Edin.); J. Bain, Ph.D. (Edin.); J. S. Harland, B.Sc. (Edin.); H. G. Reid, B.Sc. (Edin.).

Technical Assistant.—W. G. R. Murray, A.I.C.

Lecturer in Technical Chemistry.—D. Bain, D.Sc. (Edin.).

Professor of Medical Chemistry.—G. Barger, M.A. (Cantab.), D.Sc. (Lond.), Hon. D.Sc. (Liv.), F.R.S.

Lecturers.—E. Stedman, Ph.D. (Edin.), D.Sc. (Lond.); Mrs. E. Stedman, M.Sc. (Lond.); C. P. Stewart, M.Sc. (Dun.), Ph.D. (Edin.).

Assistants.—F. Bock, Ph.D. (Göttingen); R. E. Illingworth, B.Sc. (Edin.); A. Lawson, B.Sc. (Glos.).

Agriculture.—*See* p. 156.

ENGLEFIELD GREEN	Royal Holloway College*	T. S. Moore, M.A. (Oxon.); Miss M. Boyle, D.Sc. (Lond.); Miss K. I. Ross, B.A., B.Sc. (Oxon.).

EXETER: University College of the South-West of England.*

Professor and Head of Chemical Department.—W. H. Lewis, M.A. (Oxon.), F.I.C.

Lecturer in Physical Chemistry.—H. T. S. Britton, B.Sc. (Bris.), D.Sc. (Lond.), F.I.C.

Lecturer in Organic Chemistry.—Miss R. King, M.Sc. (Lond.).

Demonstrator.—W. E. Battrick, B.Sc. (Lond.).

Falkirk ..	High School ..	W. Cormack, M.A., B.Sc.; R. I. McIntosh, B.Sc.; G. Walker.
Flint ..	Evening School†	F. Roberts, B.Sc., A.I.C.; J. Bell, D.Sc.
Galashiels ..	Scottish Woollen Central Technical College	T. Oliver, B.Sc. (Lond.), D.Sc. (Edin.), Principal; D. K. Colledge, B.Sc. (Lond.); Miss M. E. Murray, B.Sc. (Lond.)., A.R.C.Sc.I., A.I.C.; R. S. Graham.
Gateshead-on-Tyne	Technical School	A. D. Wilson, B.Sc. (Dun.).
Gillingham ..	Medway Technical College	W. F. Stephenson, B.Sc. (Liv.), A.I.C.

GLASGOW: The Royal Technical College.*†

Director of the School of Chemistry and "Young" Professor of Technical Chemistry.—Thomas Gray, LL.D., D.Sc. (Glas.), Ph.D. (Jena), F.I.C.

Professor of Organic Chemistry.—Forsyth J. Wilson, Ph.D. (Leipzig), D.Sc. (Edin.), F.I.C.

Professor of Inorganic and Analytical Chemistry.—R. M. Caven, D.Sc. (Lond.), F.I.C.

Lecturer in Physical Chemistry.—J. A. Cranston, D.Sc. (Glas.), A.I.C.

Lecturers.—George S. Cruikshanks, Ph.D. (Leipzig), F.I.C.; Miss M. M. J. Sutherland, D.Sc. (Glas.), F.I.C.; W. M. Cumming, D.Sc. (Glas.), F.I.C.; I. V. Hopper, B.Sc. (Lond.), Ph.D. (Glas.), A.R.C.Sc.I., F.I.C.; J. G. Duncan, A.R.T.C., F.I.C.; P. F. Gordon, Ph.D. (Glas.), F.I.C.; A. B. Crawford, Ph.D. (Glas.), A.R.T.C., A.I.C.; A. H. Loveless, M.Sc. (Lond.), A.R.C.S., D.I.C.

Demonstrators.—W. J. Buchanan, A.R.T.C.; H. G. A. Anderson, B.Sc. (Glas.), A.I.C.; T. Love, B.Sc. (Glas.); J. McLean, B.Sc. (Glas.), A.I.C.; Miss J. M. Stratton, B.Sc. (Glas.), A.R.T.C.

Professor of Metallurgy.—J. H. Andrew, D.Sc.

"*Graham Young*" *Lecturer.*—R. Hay, Ph.D. (Glas.), A.I.C.

Lecturer.—A. J. Macdougall.

Assistant Lecturers and Demonstrators.—D. D. Howat, B.Sc. (Glas.); W. Howat, A.R.T.C.; W. R. Maddocks, B.Sc. (Wales).

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Lecturer in Sugar Manufacture.—T. H. P. Heriot, F.I.C.

Lecturer in Gas Engineering.—J. Hall.

Lecturer in Gas Supply.—J. M'Ghee.

GLASGOW: The University.*

Regius Professor of Chemistry.—G. G. Henderson, M.A., D.Sc. (Glas.), Hon. LL.D. (St. Andrews), F.I.C., F.R.S.

"*Gardiner*" *Professor of Organic Chemistry.*—T. S. Patterson, Ph.D. (Heidelberg), D.Sc. (Lond. and Glas.).

Lecturer in Physical Chemistry.—R. Wright, M.A., D.Sc. (Belfast.)

Gardiner" *Professor of Physiological Chemistry.*—A. Hunter, M.A., M.B., B.Sc.

Lecturer in Medical Chemistry.—J. Knox, D.Sc. (Aberd.).

Lecturer in Analytical Chemistry.—J. A. Mair, Ph.D. (Glas.), A.I.C.

Lecturers in Inorganic Chemistry.—J. Roberts, M.A. (Glas.); A. Henderson, M.A., B.Sc. (Glas.); D. Chisholm, Ph.D. (Glas.), A.I.C.; W. P. McCulloch, B.Sc. (Glas.);

Lecturers in Organic Chemistry.—S. H. Tucker, B.A. (Oxon.), Ph.D. (Lond.), A.R.C.S., F.I.C.; C. Buchanan, Ph.D. (Glas.).

"*Graham Young*" *Lecturer in Metallurgical Chemistry.*—R. Hay, Ph.D. (Glas.).

Assistants.—D. T. Gibson, M.Sc. (Belfast), Ph.D. (Lond.); A. Kent, M.A., B.Sc. (Glas.); Miss C. T. Lewin, B.Sc. (Glas.); S. Mitchell, Ph.D. (Glas.), A.I.C.; J. McG. Robertson, Ph.D. (Glas.), A.I.C.; R. Somerville, M.A., B.Sc. (Glas.); T. S. Stevens, B.Sc. (Glas.), Ph.D. (Oxon.); F. R. Storrie, B.Sc. (Glas.), A.I.C.; Miss I. M. McAlpin, Ph.D. (Glas.); J. Robertson, B.Sc. (Glas.); R. D. Blair, B.Sc. (Glas.), A.I.C.; A. Russell, D.Sc. (Belfast); G. Thomson, Ph.D. (Glas.).

Lecturer (at Queen Margaret College).—H. W. Bolam, B.Sc. (Edin.), Ph.D. (Leipzig), F.I.C.

Extra-Mural Teachers in Chemistry recognised by Glasgow University Court.—G. E. Cory, M.A., Rhodes University College, Grahamstown, Cape Colony; G. H. Gemmell, F.I.C., School of Medicine of the Royal Colleges, Edinburgh; West of Scotland Agricultural College (Agricultural Chemistry); J. A. Wilkinson, M.A. (Cantab.), South African School of Mines and Technology, Johannesburg; B. de St. J. Van der Riet, M.A., Ph.D., Victoria College, Stellenbosch, Cape Colony; A. B. Steven, B.Sc. (Lond.), F.I.C., St. Mungo's College, Glasgow; George S. Cruikshanks, Ph.D. (Leipzig), F.I.C., Anderson College of Medicine, Glasgow.

Agriculture.—*See* p. 157.

Glasgow	Queen Margaret College (University of Glasgow)	H. W. Bolam, B.Sc. (Edin.), Ph.D. (Leipzig), F.I.C.
Glossop	Technical School	H. O. Hodgett.
Gloucester	Technical School	R. Leach, B.Sc. (Lond.), Principal E. B. Armin, M.Sc. (Leeds).
Gravesend	Technical School	E. G. Griffiths, B.A., B.Sc. (Lond.).
Greenwich	Royal Naval College	*See* Admiralty, p. 19.
Grimsby	Technical School	H. W. Agar, M.A. (R.U.I.), M.Sc. (Leeds).

Halifax	Municipal Technical College†	A. R. Boeree, M.A., B.Sc. (Oxon.), F.I.C.
Hamilton (Lanarkshire)	Technical School	J. Middleton, B.Sc. (Edin.).
Harrogate	Technical Institute	W. Wallis, L.C.P.; A. O. J. Lupton, B.Sc. (Wales); T. H. Lusher, B.Sc. (Dun.); F. R. Richardson, B.Sc. (Lond.); E. Knowles, B.Sc. (Lond.); J. Fairlough, B.Sc. (Manc.).
Harwich	Technical School	———
Hastings	Municipal School of Science & Art	G. M. Norman, B.Sc. (Lond.), A.R.C.S., F.I.C.
Hawick	Henderson Technical School	J. A. McKerrow, M.A., B.Sc. (Glas.), A.I.C. (*Principal*).
Heywood	Technical School	G. A. Gregory, B.Sc.
High Wycombe	Technical Institute	R. S. Whitaker, B.Sc. (Sheffield), A.I.C.
Holmfirth (Yorks.)	Secondary School and Technical Institute	J. H. Whitwam, B.Sc. (Lond.).
Horwich	Railway Mechanics' Institute	H. Hayhurst, A.I.C.

HUDDERSFIELD: Technical College.*†

Head of Departments of General Chemistry and of Coal Tar Colour Chemistry.—H. H. Hodgson, M.A. (Cantab.), B.Sc. (Lond.), Ph.D. (Heidelberg), F.I.C.

Research Assistant.—E. W. Smith, Ph.D. (Leeds), A.I.C.

Associate Head of Chemical Department.—J. Bruce, B.Sc. (Lond.), Ph.D. (Munich), A.R.C.S., F.I.C.

Lecturers.—H. H. Gray, B.Sc. (Manc.), A.I.C.; G. M. Green, M.Sc. (Liv.), A.I.C.; A. O. Jones, F.I.C.

Head of Dyeing Department.—H. Wilkinson, A.I.C.

Assistant Lecturer.—F. Jordinson, M.Sc. (Leeds), A.I.C.

HULL: Municipal Technical College.*†

Head of Chemistry Department.—G. E. Johnson, B.Sc. (Lond.), F.I.C.

Assistants.—A. S. Blatchford, M.Sc. (Dun.), A.I.C.; F. A. Dawson, B.Sc. (Lond.); G. R. Dennis, B.Sc. (Lond.), A.I.C.; C. Parnaby, B.Sc. (Lond.), A.I.C.; H. Waites; S. Reed; T. Stainforth, B.A., B.Sc. (Lond.); R. Pitch, B.Sc. (Lond.).

Hull: University College.

Professor of Chemistry.—F. G. Tryhorn, D.Sc. (Liv.), A.I.C.

Lecturer.—W. B. Orr, Ph.D. (Dun.), D.Sc. (Belfast).

Hyde	Technical School	J. G. Harrison, M.Sc. (Manc.), Principal; C. A. Blackwell, M.Sc. (Vict.), A.I.C.
Inverness	Burgh Technical School	J. M. Lowson, M.A., B.Sc.
Ipswich	Municipal Technical School	E. S. J. Clark, B.Sc. (Lond.), A.I.C.

KENDAL ..	Technical School	G. Vogt.
KIDDERMINSTER	School of Science	L. Ryder, M.Sc. (Leeds), A.I.C.
KILMARNOCK ..	Technical School	C. Mackie, M.A. (Edin.); D. Watson, B.Sc. (Glas.), A.I.C.; J. Wilson, B.Sc. (Glas.); J. Mackie, M.A., B.Sc. (Aberd.); Miss M. McLaren, M.A., B.Sc. (Glas.); Miss T. Kirkland, M.A. (Glas.); Miss J. Russell, M.A. (Glas.).
KING'S LYNN ..	Municipal Technical Institute	S. J. Gudgin, B.A. (Cantab.)
KINGSTON-ON-THAMES	Science and Art School and Technical Institute	W. S. Burton, Ph.D.
LAMPETER ..	St. David's College (affiliated to the Universities of Oxford and Cambridge)	A. W. Scott, M.A. (T.C.D.).
LANCASTER ..	Storey Institute, Technical College†	W. Knowles, B.Sc. (Dun.); P. Gillman, B.Sc. (Vict.); S. Walton, B.Sc. (Dun.); J. Baty, B.Sc., T. Harris, B.Sc.; J. Ackroyd, B.Sc.
LARKHALL ..	Larkhall Academy	R. G. Baird, M.A. (Edin.); Miss A. A. Craw, M.A. (Glas.); Miss E. S. Sim, M.A. (Aberd.); D. Stenhouse, B.Sc. (Glas.).
LEEDS	Cockburn High School and Technical School	J. H. Naylor, M.Sc. (Manc.), F.I.C.; R. O. Arthur, B.Sc. (Wales), A.I.C.; R. A. Hobley, B.Sc. (Leeds); C. M. Jones, M.Sc. (Leeds).

LEEDS: TECHNICAL COLLEGE.*†

Head of Chemistry Department.—R. Gawler, M.Sc. (Vict.), F.I.C.

Lecturers and Demonstrators.—A. Taylor, M.Sc. (Leeds), A.I.C.; H. E. Goodson, A.R.C.S., A.I.C.; H. J. Ewart, B.Sc. (Birm.), A.I.C.; M. S. Fox, B.Sc.; R. A. Hobley, B.Sc.; C. M. Jones, M.Sc.; F. Crosland, B.Sc.; J. T. Thompson, M.Sc. (Leeds), F.I.C.; G. O. Yorke, M.A.

Metallurgy.—H. D. Ward.

Gas Manufacturer.—N. G. Appleyard.

Laundry Chemistry.—L. G. Defoe, B.Sc.

Oils and Fats.—L. F. Whitehead.

Chemical Engineering.—J. H. Naylor, M.Sc. (Manc.), F.I.C.; J. R. Marsden.

Materia Medica, Pharmacy, etc.—J. W. Cooper.

Photography.—J. Firth, A.I.C.

Bakery and Confectionery.—W. H. Quinn; S. W. Butterworth, B.Sc. Tech. (Manc.), A.M.C.T., A.I.C.

LEEDS: The University.*

Professor and Administrative Head of Chemistry Departments.—R. Whytlaw-Gray, O.B.E., Ph.D. (Bonn), F.I.C., F.R.S.

Reader in Colloid Chemistry.—F. L. Usher, B.Sc. (Lond.).

Lecturer in Analytical Chemistry.—W. Lowson, B.Sc. (Lond. and Leeds), F.I.C.

Lecturers in Chemistry.—J. C. Gregory, B.Sc. (Lond.), F.I.C.; J. Hume, B.Sc. (Edin.), A.I.C.

Assistant Lecturers and Demonstrators.—C. H. D. Clarke, B.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C.; F. J. Garrick, B.A. (Oxon.).

Demonstrators.—J. Colvin, Ph.D. (Liv.); R. S. Bradley, B.A. (Cantab.).

Research Assistant.—H. Whitaker, M.Sc. (Leeds).

Professor of Organic Chemistry.—F. Challenger, B.Sc. (Lond.), Ph.D. (Göttingen), D.Sc. (Birm.), F.I.C.

Lecturers.—W. A. Wightman, M.A. (Oxon.), A.I.C.; J. W. Baker, D.Sc. (Lond.); H. Burton, M.Sc. (Sheffield), Ph.D. (Lond.), A.I.C.

Assistant Lecturers and Demonstrators.—F. R. Goss, Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C.; C. W. Shoppee, D.Sc. (Lond.), A.I.C.

Research Assistant.—E. Rothstein, D.Sc. (Lond.), A.R.C.S.

Professor of Physical Chemistry.—H. M. Dawson, B.Sc. (Lond.). Ph.D. (Giessen), D.Sc. (Leeds).

Assistant Lecturer and Demonstrator.—G. F. Smith, Ph.D. (Wales).

Demonstrator.—J. W. Belton, B.Sc. (Liv.), A.I.C.

Professor of Applied Chemistry, Leather Industries.—D. McCandlish, M.Sc. (Leeds).

Lecturers.—W. R. Atkin, M.Sc. (Leeds); F. C. Thompson, M.Sc.; H. Salt, M.Sc. (Leeds), A.I.C.

Professor of Colour Chemistry and Dyeing.—F. M. Rowe, D.Sc. (Leeds), F.I.C.

Lecturer in Colour Chemistry.—R. B. Forster, Ph.D. (Berlin), D.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.

Lecturer in Dyeing.—P. E. King, A.I.C.

Assistant Lecturer.—E. J. Cross, B.Sc. (Lond.).

Research Assistant.—A. T. Peters, Ph.D.

Lecturer in Textile Chemistry.—J. B. Speakman, M.Sc. (Vict.), A.I.C.

Livesey Professor of Coal Gas and Fuel Industries.—J. W. Cobb, C.B.E., B.Sc. (Lond. and Leeds), F.I.C.

Lecturer in Gas Chemistry.—H. J. Hodsman, M.B.E., M.Sc. (Leeds), F.I.C.

Research Chemists, Coal, Gas and Fuel Department.—F. J. Dent, Ph.D. (Leeds); W. H. Blackburn, Ph.D. (Leeds); A. R. Kelly, B.Sc. (Lond.); A. Key, Ph.D. (Leeds); N. H. Williams, M.Sc. (Leeds); E. Parrish, M.Sc.; W. E. Etheridge, B.Sc. (Leeds); W. J. G. Davey, B.Sc. (Liv.); G. Milner, B.Sc. (Leeds).

Assistant Lecturer in Metallurgy.—P. F. Summers, A.R.S.M.

Research Chemist.—J. W. Wood, M.Sc.Tech. (Manc), A.I.C.

Lecturer in Chemical Pathology.—F. S. Fowweather, M.Sc., M.D., Ch.B. D.P.H. (Liv.), F.I.C.

LEEDS UNIVERSITY—*continued.*

Biochemist, Dept. of Experimental Pathology.—H. J. Channon, B.A., D.Sc. (Lond.), F.I.C.

Lecturer in Biochemistry.—Arthur Wormall, M.Sc. (Leeds), A.I.C.

Demonstrator in Biochemistry.—P. J. Marshall, M.Sc. (Leeds).

Agricultural Chemistry.—*See* p. 157.

LEICESTER ..	College of Technology†	H. L. Long, B.Sc. (Lond.), A.I.C., Head of Dept. of Chemistry and Dyeing; R. W. Blount, B.Sc. (Lond.), A.I.C.; E. J. B. Bish, Ph.D.; L. P. Priestley, B.Sc. (Lond.), A.I.C.; G. F. Hardcastle; S. J. Fletcher, B.Sc. (Lond.); G. Turner, B.Sc. (Lond.), A.I.C.; D. W. Browne, B.Sc. (Lond.); J. G. Lunt, B.Sc. (Liv.), A.I.C.

LEICESTER: UNIVERSITY COLLEGE*

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LEIGH (Lancs.)	Municipal College	A. V. Unsworth, B.Sc. (Vict.).
LEYTON (Essex)	Technical College†	R. W. Jukes, B.Sc. (Lond.).
LINCOLN ..	Technical College	D. A. Campbell, B.Sc. (Lond.), M.Sc.Tech. (Manc.), A.I.C., Principal; A. S. Holmes, B.Sc. (Lond.).

LIVERPOOL: CENTRAL TECHNICAL SCHOOL.*†

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Lecturers and Demonstrators.—T. J. Roberts; F. J. Smith, B.Sc., Ph.D., A.I.C.; A. Lees, F.I.C.; O. Ormerod, B.Sc. (Vict.), A.I.C.; G. Nicholson, B.Sc. (Lond.), A.I.C.; W. F. Buist, B.Sc. (Liv.), F.I.C.; A. E. Fletcher, A.I.C.; A. E. M. G. Gillam, M.Sc. (Liv.), A.I.C.; E. Myer, A.I.C.

LIVERPOOL: THE UNIVERSITY.*

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Heath Harrison Professor of Organic Chemistry.—I. M. Heilbron, Ph.D. (Leipzig), D.Sc. (Glas.), F.I.C.

Brunner Professor of Physical Chemistry.—W. C. McCullagh Lewis, M.A., D.Sc. (Belfast), F.Inst.P., F.R.S.

Campbell Brown Professor of Industrial Chemistry (Oils, Fats and Waxes).—T. P. Hilditch, D.Sc. (Lond.), F.I.C.

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Senior Lecturer in Applied Organic Chemistry.—F. W. Kay, M.Sc. (Manc.), Ph.D. (Berlin).

LIVERPOOL UNIVERSITY—*continued.*

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Administrative and Demonstrator.—H. Rogerson, M.Sc. (Vict.), F.I.C.

Associate Professor of Public Health Chemistry.—W. H. Roberts, M.Sc. (Vict. and Liv.), F.I.C.

Lecturers.—E. Gabriel Jones, M.Sc. (Vict. and Liv.), F.I.C.; F. J. Smith, B.Sc. (Vict. and Liv.), A.I.C.

Henry Bell Wortley Professor of Metallurgy.—C. O. Bannister, A.R.S.M., F.I.C.

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Assistant Lecturers.—Miss J. Roberts, M.Sc. (Manc.); Miss J. Duncan, B.Sc. (Manc.).

Agriculture.—*See* Reaseheath, p. 158.

MANCHESTER: COLLEGE OF TECHNOLOGY.*† (Faculty of Technology, Victoria University of Manchester.)

Professor of Technological Chemistry.—James Kenner, Ph.D. (Heid.), D.Sc. (Lond.), F.R.S.

Lecturer in Metallurgy and Assaying.—C. Handford, M.Met. (Sheffield).

Lecturer in Organic Chemistry.—L. G. Radcliffe, M.Sc.Tech. (Manc.), F.I.C.

Lecturer in Physical Chemistry.—J. K. Wood, D.Sc. (Vict.), F.I.C.

Lecturer in Fuel.—A. McCulloch, M.Sc.Tech. (Manc.), A.I.C.

Lecturer in Fermentation Processes.—T. K. Walker, Ph.D. (Manc.), F.I.C.

Lecturer in Applied Chemistry.—O. R. Howell, Ph.D. (Cantab. and Wales), F.I.C.

Lecturer in Tinctorial Chemistry and Dyestuffs.—F. A. Mason, M.A. (Oxon.), Ph.D. (Münich), F.I.C.

Lecturer in Bleaching, Dyeing, Printing and Finishing.—F. Scholefield, B.Sc. (Lond. and Leeds), M.Sc. (Vict.), F.I.C.

Special Lecturer in Applied Chemistry.—D. Cardwell, M.Sc., B.Com. (Manc.), F.I.C.

Lecturer in Cellulose Chemistry.—S. M. Neale, M.Sc.

Lecturer in Paper Making.—F. W. Bailey, A.M.S.T.

Assistant Lecturers in Applied Chemistry.—Miss E. Hibbert, M.Sc. Tech. (Manc.); Mrs. M. B. Craven, M.Sc.Tech. (Manc.), A.I.C.; A. Hancock, M.Sc.Tech. (Manc.), F.I.C.

MANCHESTER: THE COLLEGE OF TECHNOLOGY—*continued.*

Assistant Lecturers in Foodstuffs.—Miss M. Chadwick, M.Sc. (Manc.); J. D. Mounfield, M.Sc.Tech. (Manc.)., A.I.C.

Demonstrators in Chemical Technology.—A. M. Morley, M.Sc.Tech., Ph.D. (Manc.), A.I.C.; H. Shaw, M.Sc.Tech. (Manc.); B. A. Bannister, M.Sc. (Sheffield).

Demonstrator in Electro-Chemistry.—V. Bloomer, M.Sc. (Vict.), A.I.C.

Assistant Lecturer in Metallurgy.—K. G. Lewis, M.Sc. (Wales), A.I.C.

Assistant Lecturer in Textile Chemistry.—J. M. Preston, B.Sc. (Liv.), A.I.C.

Assistant Instructors in the Bleaching, Dyeing, and Paper Making Department.—F. W. Altham; C. Clarke; J. Hardman.

MANSFIELD (Notts.)	County Technical College	L. Orange, M.B.E., B.Sc. (Lond.), F.I.C.; H. H. Barber, Ph.D., (Lond.), F.I.C.; J. A. Hatfield.
MAYBOLE (Ayrshire)	Carrick Academy	R. C. Anderson, B.Sc. (Edin.); D. Martin, M.A. (Glas.).
MIDDLESBROUGH	Constantine Technical College	C. R. Groves, M.Sc. (Birm.), A.I.C.; E. Kilner, B.Sc. (Lond.), A.I.C.; J. M. Powell, B.Sc. (Wales).
NEWARK ..	County Technical College†	J. Graymore, M.Sc. (Lond.), A.I.C.

NEWCASTLE UPON TYNE: ARMSTRONG COLLEGE.* (University of Durham.)

Emeritus Professor of Chemistry.—P. Phillips Bedson, M.A., D.Sc. (Lond.), B.Sc. (Vict.), D.Sc. (Dun.), F.I.C.

Professor of Inorganic and Physical Chemistry and Director of the Department of Chemistry.—H. Vincent A. Briscoe, M.Sc. (Dun.), D.Sc. (Lond.), A.R.C.S., D.I.C., F.I.C.

Professor of Organic Chemistry.—G. R. Clemo, Ph.D., D.Sc. (Lond.), D.Phil. (Oxon.), F.I.C.

Lecturers in Chemistry.—P. L. Robinson, D.Sc. (Dun.), F.I.C.; W. M. Madgin, M.Sc. (Dun.), A.I.C.; Miss C. E. Mallen, M.A. (Cantab.); Miss G. C. Leitch, M.A., Ph.D. (St. Andrews); R. D. Haworth, B.Sc. (Oxon.), Ph.D. (Manc.), F.I.C.; R. Roper, M.A., Ph.D. (Cantab.); L. A. Sayce, Ph.D. (Dun.), A.Inst.P., A.I.C.

William Cochrane Lecturer in Metallurgy.—J. A. Smythe, Ph.D. (Göttingen), D.Sc. (Dun.).

Lecturer.—C. E. Pearson, B.Met. (Sheffield).

Demonstrator in Bacteriology.—J. L. G. Iredale, M.B., Ch.B. (Leeds), D.P.H. (Cantab.).

Agricultural Chemistry.—*See* p. 158.

NEWCASTLE UPON TYNE: RUTHERFORD TECHNICAL COLLEGE.*†

Principal.—E. C. Edgar, D.Sc. (Vict.), F.I.C.

Head of Chemistry Department.—A. J. Jinkings, Ph.D. (Lond.), A.I.C.

Lecturers.—J. R. Rowlands, M.Sc, (Wales), A.I.C.;

New Mills (via Stockport)	Technical Institute,† Spring Bank	H. E. Farrar, M.Sc. (Leeds) A.I.C.; T. Martin, A.M.C.T.
Newport (Mon.)	Technical College	A. Brennan, B.Sc. (Dun.), A.I.C.
Newton Abbot	Science, Art and Technical School	E. Vanstone, M.Sc. (Wales), D.Sc. (Birm.), F.I.C.
Northampton Institute (*see* London).		
Northampton	Technical College†	W. J. Chater, M.Sc. (Vict.); D. Woodroffe, M.Sc. (Leeds), A.I.C.
Northwich ..	Verdin Technical Schools	M. J. Tickle, B.Sc. (Liv.).
Norwich ..	Technical College	W. W. Reed, M.Sc. (Wales), F.I.C.; H. A. Costigan, Ph.D. (Liv.), A.I.C. (*Principal*); A. G. Coe, B.Sc. (Wales).

NOTTINGHAM: University College.*

Sir Jesse Boot Professor of Chemistry.—F. S. Kipping, Ph.D. (Münich), D.Sc. (Lond.), F.I.C., F.R.S.

Reader in Inorganic and Physical Chemistry.—E. B. R. Prideaux, M.A., B.Sc. (N.Z.), D.Sc. (Lond.), F.I.C.

Sir Jesse Boot Lecturer in Applied Chemistry.—S. R. Trotman, M.A. (Cantab.), F.I.C.

Senior Lecturer.—J. B. Firth, M.Sc. (Dun.), D.Sc. (Manc.), F.I.C.

Lecturers.—F. S. Watson, M.Sc.; F. C. Laxton, B.Sc. (Lond.), A.I.C.; J. E. Driver, B.Sc. (Lond.), A.I.C.; B. D. Shaw, B.Sc.

Oxford ..	City Technical School	J. S. Hill, M.A. (Oxon.), B.Sc. (Manc.).

OXFORD: The University.*

Waynflete Professor of Chemistry.—Robert Robinson, D.Sc. (Vict.), F.I.C., F.R.S.

Dr. Lee's Professor of Chemistry.—F. Soddy, M.A. (Oxon.), F.R.S.

Whitley Professor of Biochemistry.—R. A. Peters, M.A., M.D. (Cantab.).

Waynflete Professor of Mineralogy and Crystallography.—H. L. Bowman, M.A., D.Sc.

Reader in Chemistry.—N. V. Sidgwick, O.B.E., M.A. (Oxon.), Sc.D. (Tübingen), Hon. D.Sc. (Leeds).

Lecturer in Physical Chemistry.—D. L. Chapman, M.A. (Oxon.), F.R.S.

Aldrichian Demonstrator of Chemistry.—B. Lambert, M.A. (Oxon.).

Reader in Thermodynamics.—A. C. G. Egerton, M.A. (Oxon.), B.Sc. (Lond.), F.I.C., F.R.S.

Lecturer in Chemical Dynamics.—C. N. Hinshelwood, M.A. (Oxon.).

Lecturers.—E. J. Bowen, M.A. (Oxon.); Sir H. B. Hartley, C.B.E., M.A. (Oxon.), F.R.S.; J. H. Wolfenden, M.A. (Oxon.); D. Ll. Hammick, M.A. (Oxon.); S. G. P. Plant, M.A., D.Phil.; G. D. Parkes, M.A., B.Sc., D.Phil. (Oxon.), F.I.C.; A. F. Walden, M.A. (Oxon.); E. Hope, M.A. (Oxon.); T. W. J. Taylor, M.A. (Oxon.); A. S. Russell, M.A. (Oxon.); H. J. George, M.A., A.I.C.; D. M. M. Murray-Rust, M.A., B.Sc. (Oxon.); Miss M. A. Leishman, B.A., B.Sc. (Oxon.); H. W. Thompson, B.A., B.Sc. (Oxon.); F. M. Brewer, M.A., B.Sc. (Oxon.); H. M. Powell, B.A. (Oxon.); W. Baker, D.Phil. (Manc.); J. M. Gulland, M.A. (Oxon.); E. G. J. Hartley, M.A. (Oxon.); O. Gatty, B.A. (Oxon.); W. A. Macfarlane, B.A. (Oxon.); A. B. Adamson, B.A., B.Sc.; E. G. Kellett, B.A., B.Sc. (Oxon.), A.I.C.; R. C. H. Spiller, M.A. (Oxon.).

Agriculture.—*See* p. 157.

PAISLEY: Technical College.*

Head of the Chemical Department.—P. C. Austin, M.A. (Cantab.), D.Sc. (N.U.I.), F.I.C.

Lecturers.—Thomas A. Wilson, A.R.T.C., F.I.C.; Wilfred Whalley, B.Sc., M.Ed. (Vict.), A.I.C.; J. B. McKean, F.I.C.; J. Armour, B.Sc. (Lond.), A.I.C.; Miss A. J. Kelly, B.Sc. (Lond.).

Assistant Lecturers.—M. M. Love, A.I.C.; C. Allison, A.I.C.

Dyeing and Bleaching.—J. R. Lockie; A. D. Davies.

Penzance ..	School of Metalliferous Mining	F. Winiberg, jnr.
Peterborough	Technical School	J. H. Davies, B.Sc. (Wales), Ph.D. (Leipzig), Headmaster; C. Tyler, B.Sc., (Lond).
Plymouth ..	Plymouth and Devonport Technical College	T.T. Barnes, B.Sc. (Lond.) ; F. S. Blight ; W. A. Waterfield ; D. B. Peacock, B.A. (R.U.I).
Pontypridd ..	Technical School	T. Lovett, M.Sc. (Wales), A.I.C.
Portsmouth ..	Municipal College	W. H. Watson, M.Sc. (Lond.), A.R.C.S. (*Principal*); G. Macaulay Painter, B.Sc. (Lond.), A.I.C.; Miss C. M. Hirst, M.A. (Cantab.); W. F. Andrews, B.Sc. (Birm.), M.Sc. (Lond.); N. C. Jerome, B.Sc. (Lond.).
Preston ..	Harris Institute and Victoria Technical School†	R. H. Jones, M.Sc. (Vict.), A.I.C.; E. Taylor, M.Sc. (Leeds); F. Jackson, B.Sc. (Manc.); J. N. Aldington, B.Sc. (Lond.), A.I.C. *Agricultural Chemistry.* — *See* p. 158.
Pudsey.. ..	Technical School	F. R. Penn, B.Sc., A.R.C.S.
Radcliffe (Lancs.)	Technical School	H. Hindle, B.Sc. (Manc.), A.I.C.
Rawtenstall (Manchester)	Technical School	*See* Bacup.

READING: The University.*

Head of Chemical Department.—Henry Bassett, Ph.D. (Münich), D.ès Sc. (Nancy), D.Sc. (Lond.), F.I.C.

Lecturers and Demonstrators.—J. W. Dodgson, B.Sc. (Lond.), A.I.C.; D. R. Maxted, B.Sc. (Lond.), A.R.C.S.; W. F. K. Wynne-Jones, B.Sc. (Oxon. and Wales).

Honorary Research Fellow.—R. G. Durrant, M.A. (Oxon.).

Agricultural Chemistry.—*See* p. 158.

Redhill ..	Technical Institute	A. Clarke, B.Sc. (Lond.).
Redruth ..	School of Metalliferous Mining	J. H. Bosanko.

Ripon	Technical School	W. J. W. Caruth.
Rochdale	Technical School†	T. H. Bott, M.Sc. (Lond.), A.I.C.; J. E. Caygill, M.Sc. (Sheffield); A. H. Holden, B.Sc. (Lond.).
Rotherham	Technical Institute	M. B. Thompson, B.Sc. (Lond.), A.R.S.M.; C. F. P. Kemp.
Runcorn	Technical Institute	L. Gledhill, B.Sc. (Vict.); H. E. Mayston.

ST. ANDREWS: The University* (United College of St. Salvator and St. Leonard).

Professor of Chemistry and Director of the Chemical Research Laboratory—John Read, M.A. (Cantab.), B.Sc. (Lond.), Ph.D. (Zürich).

Senior Lecturer in Chemistry.—G. J. Robertson, M.A., B.Sc., Ph.D. (St. Andrews).

Lecturers and Demonstrators in Chemistry.—Miss Ettie S. Steele, M.A., B.Sc., Ph.D. (St. Andrews); J. Y. Macdonald, M.A. (Oxon.), Ph.D. (Lond.).

St. Helens	Municipal Technical School† (Gamble Institute)	A. Shepherd, A.R.C.S.

SALFORD: Royal Technical College.*†

Head of Chemical Department.—B. Prentice, Ph.D. (Münich), D.Sc. (Edin.).

Lecturers and Demonstrators.—E. Clark, B.Sc. (Lond.); J. W. McMyn; V. Edge, B.Sc. (Manc.); A. Taylor, B.Sc. (Manc.); A. H. Burr, M.A., M.Sc. (Aberd.), M.Sc.Tech (Manc.), A.I.C.; E. H. Scott, B.Sc. (Dun.), A.I.C.; S. Duckworth, M.Sc. (Manc.); E. Kellett, B.Sc. (Manc.); J. F. Shorthouse; R. H. Kay; J. W. Bardsley.

Scunthorpe	Evening Technical Institute	R. W. Scott, M.A. (Oxon.).

SHEFFIELD: The University.*

Firth Professor of Chemistry.—W. Palmer Wynne, D.Sc. (Lond.), F.R.S.

Lecturer in Organic Chemistry.—G. M. Bennett, M.A. (Cantab.), B.A., Ph.D. (Lond.), F.I.C.

Lecturer in Physical Chemistry.—S. Glasstone, Ph.D., D.Sc. (Lond.), F.I.C.

Assistant Lecturers.—Miss E. G. Turner, M.Sc. (Sheffield); Miss D. M. Bennett, M.Sc. (Sheffield); T. B. Smith, B.Sc. (Lond.); A. W. Chapman, D.Sc. (Lond.), A.R.C.S., F.I.C.; J. C. Speakman, Ph.D. (Sheffield).

Professor of Fuel Technology.—R. V. Wheeler, D.Sc. (Vict.), F.I.C.

Lecturers.—W. A. Batley, M.Sc. (Manc.); R. Wigginton, B.Sc. (Lond.), A.R.C.S.

Demonstrator.—A. E. Beet, B.Met. (Sheffield).

Research Assistant.—R. A. Mott, M.Sc. (Leeds), F.I.C.

SHEFFIELD UNIVERSITY—*continued.*

Lecturer in Refractories.—W. J. Rees, B.Sc.Tech. (Sheffield), F.I.C.

Professor of Glass Technology.—W. E. S. Turner, O.B.E., M.Sc. (Birm.), D.Sc. (Lond.), F.Inst.P.

Lecturer.—M. Parkin, M.Sc. (Sheffield).

Assistant Lecturer.—F. Winks, M.Sc.Tech. (Sheffield).

Research Assistants.—Miss V. Dimbleby, M.Sc. (Sheffield); E. Seddon, Ph.D. (Leeds); W. J. A. Warren, B.Sc. (Dun.); J. T. Howarth, M.Sc. (Manc.), Ph.D. (Sheffield); B. Longmuir, B.Eng. (Sheffield).

Junior Research Assistant.—W. Maskill, B.Sc. (Lond.).

Professor of Metallurgy.—C. H. Desch, Ph.D. (Würzburg), D.Sc. (Lond.), F.I.C., F.R.S.

Senior Lecturers.—F. Ibbotson, D.Met. (Sheffield), B.Sc. (Lond.), F.R.C.Sc.I., F.I.C.; F. K. Knowles, M.Met. (Sheffield).

Lecturers.—J. H. Wreaks, B.Met. (Sheffield); F. Orme, M.Met. (Sheffield), A.I.C.

Demonstrators.—R. T. Percival; E. Gregory, B.Sc. (Lond.), A.I.C.

Professor of Pharmacology.—E. Mellanby, M.A., M.D. (Cantab.), F.R.C.P., F.R.S.

Lecturer.—D. C. Harrison, B.Sc. (Lond.), Ph.D. (Cantab.), A.I.C.

Research Staff.—Mrs. M. Mellanby; W. M. Roberts, M.Sc., M.D. (Manc.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), F.I.C.; A. F. Watson, Ph.D. (Lond.), F.I.C.; Mrs. S. T. Harrison, M.A. (Penn.), Ph.D. (Cantab.); H. N. Green, M.Sc., M.D. (Sheffield).

SHIPLEY (Yorks.)	Technical School	W. P. Winter, B.Sc. (Lond. and Wales); W. G. Spencer, B.Sc. (Leeds).
SHREWSBURY ..	Technical College	A. E. White, B.A., B.Sc. (Lond.), Principal; T. W. Rogers, B.Sc. Eng. (Manc.); E. W. Lambert, B.A. (Cantab.).
SMETHWICK ..	Municipal Technical College	T. J. Murray, M.Sc. (Birm.), Ph.D. (Leipzig), F.I.C.; C. E. Wood, M.Sc. (Birm.), A.I.C.; C. J. A. Taylor, M.Sc. (Birm.), A.I.C.

SOUTHAMPTON: UNIVERSITY COLLEGE.*

Professor.—D. R. Boyd, Ph.D. (Heidelberg), D.Sc. (Glas.), F.I.C.

Lecturer in Physical Chemistry.—A. E. Clarence Smith, M.A. (Cantab.), A.I.C.

Demonstrators.—E. D. Colenutt, B.Sc. (Lond.); C. H. Beale, B.Sc. (Lond.).

SOUTHEND-ON-Sea	Technical School	A. J. Walker, B.Sc. (Leeds and Vict.).
SOUTHPORT ..	Technical Institute	W. C. Thompson.
STAFFORDSHIRE	County Council Education Committee.	*County Chemistry Master.*— J. Poole, B.Sc. (Lond.), *Metallurgy.*—T. G. Bamford, M.Sc. (Liv.), A.I.C.

STAFFORD	County Technical School	C. H. B. Epps, M.A. (Cantab.).
STOCKPORT	Technical School†	G. A. Campbell, M.Sc. (Leeds); J. F. Scott, B.A., B.Sc. (Lond.; F. C. Wood, M.Sc. (Lond.), F.I.C.
STOKE-ON-TRENT	North Staffordshire Technical College†	H. V. Thompson, M.A. (Cantab.), A.I.C. ; A. F. Jones, B.Sc. (Lond.); T. W. D. Gregory; F. H. Clews, M.Sc. (Birm), A.I.C.; H. Mills, B.Sc. (Lond.); G. H. Goodwin, A.I.C.; H. H. Brooke; A. A. Brander.
„	Hanley Technical School	R. W. A. Burgess, B.Sc. (Lond.).
„	Longton Technical School	H. G. Belasco, B.Sc. (Lond.), A.I.C.
„	Tunstall Technical Institute	R. E. Wilshaw, B.Sc. (Manc.).
„	Wedgwood Technical Institute, Burslem	F. H. Clews, M.Sc. (Birm.), A.I.C.
SUNDERLAND	Technical College	C. F. Baker, B.Sc. (Lond.) Ph.D. (Strassburg); R. C. A., Culbert, M.Sc. (Dun.); W. G. Carey, F.I.C.; J. H. Wilkinson, B.Sc. (Lond.). *Head of the Pharmacy Dept.*—Miss H. C. M. Winch, A.I.C.; W. Nixon; J. Penman.
SUTTON (Surrey)	County School and Technical Institute	D. Willott, B.Sc. (Lond.), L.C.P.; A. S. Bibby, M.Sc. (Dun.).

SWANSEA: UNIVERSITY COLLEGE OF SWANSEA.*

Professor of Chemistry.—J. E. Coates, O.B.E., D.Sc. (Birm.), F.I.C.

Lecturer.—L. E. Hinkel, D.Sc. (Lond.), F.I.C.

Assistant Lecturers.—E. E. Ayling, M.Sc. (Lond.), A.I.C.; N. H. Hartshorne, M.Sc. (Birm.), Ph.D. (Lond.), A.I.C.

SWANSEA	Technical College†	E. A. Tyler, M.A. (Cantab.), F.I.C.; H. J. Williams, F.I.C.; P. S. Jewell, B.A. (Cantab.), A.I.C. *Metallurgy.*—J. C. Godsell.
SWINDON	The College	J. Lewis, B.Sc. (Wales); W. C. Loaring, B.Sc. (Lond.), A.R.C.S. A.I.C.; P. T. Wilson.
TAUNTON	Municipal Technical Institute	A. Goodliffe, M.A. (Cantab.), Principal.
TIVERTON	Technical Science and Art School	L. W. White, B.Sc. Agric. (Lond.).
TREFOREST	School of Mines†	S. B. Watkins.

Truro	County Technical Schools	C. G. M. Delahunt, M.A.(Cantab.), Principal; A. Gregg, B.Sc.; Miss Miss E. Williams, B.Sc.
Tunbridge Wells	Technical Institute	J. Lister, B.Sc. (Lond.), Ph.D. (Leipzig), A.R.C.S.; B. E. Towlson, B.Sc. (Lond.), A.I.C.
Wakefield	Technical and Art School	E. J. L. Reynolds, B.Sc. (Lond.), A.R.C.S., A.I.C.; G. F. Pearce, B.Sc. (Lond.).

WALES: The University.

The Colleges of the University of Wales are: University College of Wales, Aberystwyth; University College of North Wales, Bangor; and University College of South Wales and Monmouthshire, Cardiff.

Walsall	Technical College	F. E. Thompson, A.R.C.S., F.I.C., Principal.
Warrington	Technical Institute†	R. Wallington, B.Sc. (Lond.); L. Jones, B.Sc. (Vict.), A.I.C.; Miss G. Joynson, B.Sc. (Vict.); F. J. Davies, B.Sc. (Lond.).
Wednesbury	County Technical College	I. G. Bamford, M.Sc. (Birm.), A.I.C.; E. C. Rollason, B.Sc. (Birm.); G. C. Newton, M.A., B.Sc. (Birm.); Miss W. V. Elesmore, B.Sc. (Birm.).
West Bromwich	Kenrick Technical College	R. C. Prescott, M.Sc.Tech. (Vict.); N. C. Hayward, B.Sc.; H. H. Spears; R. A. Wilkes, B.Sc.

WEST HAM: Municipal College,* Romford Road, E.15.

Head of the Chemistry Department.—G. Dean, M.A. (Cantab.), D.Sc. (Lond.).

Lecturers.—F. L. Allen, B.Sc.(Lond.), A.I.C.; R. F. Bromley, B.Sc. (Lond.), A.I.C.; P. B. Fletcher, M.Sc. (Lond.), A.I.C.

West Hartlepool	Technical College	G. Palmer, B.Sc. (Lond.).
Weston-super Mare	School of Science and Art	E. T. Bucknell.
Widnes	Municipal College†	S. G. Lawrence, B.Sc. (Lond.); J. F. Marrion, B.Sc. (Liv.), A. Williams, M.Sc. (Liv.); J. J. Stubbs, B.Sc. (Liv.); R. Hardman; R. Stirrup; W. E. Hartles, B.Sc. (Liv.), J. R. Barr, B.Sc. (Liv.), A.I.C.; R. W. Riding, Ph.D. (Liv.), A.I.C.; R. Cartwright, B.Sc. (Liv.).

WIGAN: WIGAN AND DISTRICT MINING AND TECHNICAL COLLEGE.*†

Head of Chemistry Department.—E. B. Naylor, M.Sc. (Vict.), F.I.C.

Lecturers.—H. Crofts, M.Sc. (Dun.), A.I.C.; A. Cooksey, B.Sc. (Lond.), A.I.C.; H. Higham, B.Sc. (Liv.); Miss H. B. Clint, Ph.D. (Liv.).

WOLVERHAMPTON	Wolverhampton and Staffs. Technical College†	W. Regan, B.Sc. (Glas.), A.R.T.C., A.I.C., Head of Dept.; M. Schofield, M.A. (Oxon.), B.Sc. (Lond.) A.I.C.; L. R. Mernagh, B.Sc. (Lond.), A.C.G.F.C., F.I.C.
WOLVERTON (Bucks.)	Technical College	F. W. J. McCosh, B.Sc. (Lond.), A.R.C.S.
WORCESTER ..	Victoria Institute	H. E. Hawtin, M.A. (Oxon.); L. J. Snape, B.Sc. (Birm.).
WORKINGTON ..	County and Secondary School (Technical Classes)	E. H. Todd, M.A. (Oxon.), A.I.C.; J. S. Swales, B.Sc. (Sheffield).
WREXHAM ..	School of Science and Art	G. Symonds, B.Sc. (Wales), A.I.C.
" ..	Denbighshire Technical Institute	W. Thomas, M.A. (Cantab.), Ph.D. (Aberd.), D.Sc. (Wales), A.I.C.
YARMOUTH, GREAT	Municipal School of Science	J. Parkin, B.Sc. (*Principal*); R. R. Johnson, B.Sc.; R. Morgan-Hughes.

MEDICAL AND DENTAL COLLEGES AND SCHOOLS.

Professors and Teachers of Chemistry, Analysts, Biochemists, etc., in Universities, Hospitals and Institutions at which Medical and Dental Study may be commenced, in accordance with the Regulations of the General Medical Council.

ABERDEEN ..	The University	.. .. .. *See* p. 120.
"	City Hospital	*Biochemist.*—A. B. Weir, B.Sc. (Edin.), A.I.C.
ABERYSTWYTH	University College of Wales	.. .. *See* p. 121.
BANGOR ..	University College of North Wales	.. *See* p. 121.
BIRMINGHAM ..	The University ..	.. .. .. *See* p. 122.
"	General Hospital	*Biochemist.*—G. Thomas, M.Sc. (Manc.), A.I.C.
BRADFORD ..	City Technical College ..	.. .. *See* p. 123.
BRIGHTON ..	Municipal Technical College	.. .. *See* p. 124.
BRISTOL ..	The University	.. .. .. *See* p. 124.
CAMBRIDGE ..	Girton College ..	.. .. .. *See* p. 124.
" ..	The University ..	.. .. .. *See* p. 124.

CARDIFF	Mental Hospital, Whitchurch	J. H. Quastel, Ph.D. (Cantab.), D.Sc. (Lond.), A.R.C.S., F.I.C.; A. H. M. Wheatley, B.Sc. (Leeds), A.I.C.
"	University College of South Wales and Monmouthshire	*See* p. 125.
CHELTENHAM	Ladies' College	*See* p. 170.
DERBY	Technical College	*See* p. 127.
DUNDEE	University College	*See* p. 127.
DURHAM	The University	*Professor of Physiology.* — D. Burns, M.A. (Glas. and Dun.), D.Sc. (Glas.). *Hon. Research Associate.*—Mrs. C. M. Burns, M.A. (Cantab.), A.I.C. *Demonstrator in Physiological Chemistry.*—J. A. Saunders, M. Sc. (Dun.). *Assistant Demonstrator in Physiological Chemistry.*—F. J. Elliott, B.Sc. (Dun.), A.I.C.
EDINBURGH	Dental Hospital and School	(Students attend the School of Medicine of the Royal Colleges.)
"	Medical College for Women, Minto House	T. W. Drinkwater, L.R.C.P., L.R.C.S. (Edin.), F.I.C.
"	School of Medicine of the Royal Colleges	G. H. Gemmell, F.I.C.; T. W. Drinkwater, L.R.C.P., L.R.C.S. (Edin.), F.I.C.
"	The University	*See* p. 128.
ENGLEFIELD GREEN	Royal Holloway College	*See* p. 128.
EXETER	University College	*See* p. 129.
GLASGOW	The Anderson College of Medicine	*Inorganic and Organic Chemistry.*—George S. Cruikshanks, Ph.D. (Leipzig), F.I.C. *Physiological Chemistry.*—I. Murray, M.D.
"	Incorporated Glasgow Dental Hospital	*Dental Metallurgy.* — W. Bruce Hepburn, L.D.S. (Glas.).
"	Queen Margaret College (University of Glasgow)	Herbert W. Bolam, B.Sc. (Edin.), Ph.D. (Leipzig), F.I.C.
"	Royal Infirmary	*Assistant Biochemist.*—S. L. Tompsett, B.Sc. (Lond.), A.I.C.
"	St. Mungo's College	A. B. Steven, B.Sc. (Lond.), F.I.C.
"	The University	*See* p. 129.
GLOUCESTER	Municipal Technical School (Day Classes)	*See* p. 130.
HALIFAX	Municipal Technical College (Day Classes)	*See* p. 131.
HUDDERSFIELD	Technical College (Day Classes)	*See* p. 131.

Leeds	The University	*See* p. 132.
Leicester	College of Technology	*See* p. 134.
Liverpool	The University	*See* p. 134 *Dental Metallurgy.*—C.O. Bannister, A.R.S.M., F.I.C.
London	Battersea Polytechnic	*See* p. 135.
„	Bedford College	*See* p. 135.
„	Birkbeck College	*See* p. 136.
„	Cancer Hospital Research Institute	J. W. Cook, D.Sc. (Lond.), F.I.C.
„	Charing Cross Hospital Medical School	*Hon. Analyst.*—P. A. Ellis Richards, F.I.C. *Biochemist* (Institute of Pathology).—J. Patterson, M.Sc., Ph.D. (St. Andrews).
„	East London College	*See* p. 137.
„	Guy's Hospital	C. S. Gibson, O.B.E., M.A. B.Sc. (Oxon.), M.A., (Cantab.), M.Sc.Tech. (Manc.), F.I.C.; W. Morris Colles, B.Sc. (Lond.), A.I.C.; E. Matthews, Ph.D. (Lond.); J. D. A. Johnson, Ph.D. (Lond.); L. A. Elson, B.Sc. (Lond.), A.I.C. *Dental Metallurgy.*—C. S. Gibson, O.B.E., M.A., B.Sc. (Oxon.), M.A. (Cantab.), M.Sc. Tech. (Manc.), F.I.C.; F. A. Walker, L.D.S. (Eng.).
„	King's College Hospital	*See* King's College, p. 137.
„	London Hospital Medical College	H. C. H. Candy, B.A., B.Sc. (Lond.), F.I.C. (Analyst to the Hospital): F. W. Bury, M.Sc. (Vict.), A.I.C.
„	London (Royal Free Hospital) School of Medicine for Women (Hunter Street, London, W.C.1)	J. A. Gardner, M.A. (Oxon.), F.I.C.; Miss Sibyl T. Widdows. B.Sc. (Lond.), F.I.C.; Mrs. E. I. Taylor, Nat.Sci.Trip. (Cantab.); Miss P. Sanderson, B.Sc. (Lond.); Miss L. Wills, M.B., B.Sc. (Lond.), *Chemical Pathologist.*
„	London School of Hygiene and Tropical Medicine, University of London (Keppel Street, W.C.1)	*Professor and Director of Division of Biochemistry and Chemistry as Applied to Hygiene.*—H. Raistrick, B.A. (Cantab.), D.Sc. (Leeds), F.I.C. *Reader.*—A. Robertson, M.A., Ph.D. *Professor and Director of Department of Chemistry as Applied to Hygiene.*—M. E. Delafield, B.A., M.B., B.Ch., M.R.C.S., L.R.C.P., D.P.H. *Lecturer.*—W. R. Wooldridge, Ph.D., M.R.C.V.S.

LONDON	Middlesex Hospital	W. B. Tuck, D.Sc. (Lond.), F.I.C.; W. Lawson, M.Sc. (Liv.), A.I.C. *Consulting Analytical Toxicologist.*—J. F. F. Rowland, B.A. (Cantab.), A.I.C.
„	National Dental Hospital	———
„	Royal College of Science, London	*See* p. 139.
„	Royal Dental Hospital	P. A. Ellis Richards, F.I.C.
„	St. Bartholomew's Hospital	*Reader and Lecturer.*—W. H. Hurtley, D.Sc. (Lond.). *Demonstrator.*—B. W. Town, B.Sc. (Lond.), A.I.C. *Physiology and Biochemistry.*—H. G. Reeves, D.Sc. (Lond.), F.I.C.
„	St. George's Hospital	J. A. Gardner, M.A. (Oxon.),F.I.C.
„	St. Mary's Hospital	Sir William H. Willcox, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P., D.P.H., B.Sc. (Lond.), F.I.C., *Medical Adviser to the Home Office* *Director of Department of Chemical Pathology.*—G. Roche Lynch, O.B.E., M.B., B.S. (Lond.), D.P.H., F.I.C. *Lecturer in Chemistry.*—G. W. Ellis, O.B.E., B.Sc. (Lond.), F.I.C. *Demonstrator.*—G. King, M.Sc. (Lond.), F.I.C.
„	St. Thomas's Hospital	R. H. A. Plimmer, D.Sc. (Lond.); J. Lowndes, F.I.C.; R. G. Austin, B.Sc. (Lond.), A.I.C.
„	University College Hospital and University College Hospital Dental School	*See* University College, London, p. 141.
„	Westminster Hospital Medical School, S.W.1	*Lecturer in Forensic Medicine.*—G. Roche Lynch, O.B.E., M.B., B.S. (Lond.), D.P.H., F.I.C. *Assistant Pathologist and Biochemist, Lecturer in General and Chemical Pathology.*—F. D. M. Hocking, M.B., B.S., M.Sc. (Lond.), M.R.C.S., L.R.C.P., A.C.G.F.C., F.I.C.
MANCHESTER	Victoria University	*See* p. 142. *Dental Metallurgy.*—F. C. Thompson, B.Sc. (Lond.), D.Met. (Sheffield).
NORWICH	Municipal Technical Institute (Day Classes)	*See* p. 145.

Nottingham	University College	*See* p. 145.
Oxford	The University	*See* p. 145.
Plymouth	Municipal Technical School (Advanced Day Classes)	*See* p. 146.
Portsmouth	Municipal College (Day Classes)	*See* p. 146.
Preston (Lancs.)	The Harris Institute	*See* p. 146.
Reading	The University	*See* p. 146.
Rochdale	Municipal Technical School (Day Classes)	*See* p. 147.
St. Andrews	The University	*See* p. 147.
Sheffield	The University	*See* p. 147.
Southampton	University College	*See* p. 148.
Swansea	Technical College (Day Classes)	*See* p. 149.
	University College	*See* p. 149.
Wakefield	West Riding Mental Hospitals	*Analyst.*—W. Rhys-Davies, F.I.C.

PROFESSORS AND TEACHERS OF CHEMISTRY, AND OTHER CHEMISTS,

AT AGRICULTURAL COLLEGES AND RESEARCH INSTITUTIONS IN GREAT BRITAIN AND IRELAND.

Aberdeen	The Aberdeen and North of Scotland College of Agriculture. (Agricultural Department, The University)	*Strathcona Fordyce Professor.*—J. Hendrick, B.Sc. (Lond.), F.I.C.; A. Hill, B.Sc. (Aberd.), A.I.C.; Walter Moore, B.Sc. (Aberd.).
„	Macaulay Institute for Soil Research.	*Director.*—W. G. Ogg, M.A., B.Sc. (Aberd.), D.Phil. (Cantab.).
„	Rowett Research Institute, Bucksburn	W. Godden, B.Sc. (Lond.), A.R.C.S., F.I.C.; M. B. Richards, M.A., D.Sc.; B. W. Simpson, M.A., B.Sc.; J. C. MacPhail, B.Sc. (Glas.), A.I.C.; G. L. Stuart, M.A., B.Sc.; K. McKenzie, M.Sc.Tech.; I. S. Malcolm, M.A., B.Sc. (Aberd.), A.I.C.; M. L. Thomson, B.Sc. (Glas.), A.I.C.; I. J. Cunningham, M.Sc. (N.Z.), A.I.C.
Aberystwyth	The University College of Wales, Agricultural Department	*Head of Dept.*—T. W. Fagan, M.A. (Cantab.), F.I.C. *Lecturer.*—R. O. Davies, M.Sc. (Wales), A.I.C. *Ministry of Agriculture, Advisory Agricultural Chemist.*—T. W. Fagan, M.A. (Cantab.), F.I.C.

Aspatria (*see* Bury St. Edmunds).		
Bangor	University College of North Wales, Agricultural Department.	G. W. Robinson, M.A. (Cantab.); W. McLean, B.A., B.Sc. (N.U.I.) R. Williams, M.Sc. (Wales); D. O. Hughes, M.Sc. (Wales); W. G. D. Walters, B.Sc. (Wales); Miss M. G. Richardson, Ph.D. (Wales). *Ministry of Agriculture, Advisory Agricultural Chemist.*—G. W. Robinson, M.A.
Bristol	Agricultural and Horticultural Research Station, Long Ashton	T. Wallace, M.Sc. (Dun.), A.I.C.; F. Tutin, M.Sc.; D. A. Osmond, B.Sc. (Bris.), A.I.C.; J. O. Jones, M.Sc. (Wales); V. L. S. Charley, B.Sc. (Bris.); F. C. Lewis, B.Sc. (Bris.); A.I.C. *Ministry of Agriculture, Advisory Department.*—A. W. Ling, M.Sc.
Bury St. Edmunds	Chadacre Agricultural Institute, Hartest	W. R. Steward, Principal.
Cambridge	University Department of Agriculture	*Drapers' Professor of Agriculture.*—F. L. Engledow, M.A. (Cantab.); F. W. Foreman, M.A. (Cantab.), F.I.C.; E. McK. Taylor, M.B.E., Ph.D. (Cantab.), D.Sc. (Dun.), F.I.C. *Ministry of Agriculture, Advisory Agricultural Chemist.*—F. Hanley, M.A.
Campden (Glos.)	Fruit and Vegetable Preservation Research Station	F. Hirst, M.Sc., A.R.C.S.; W. B. Adam, M.A. (Cantab.), A.I.C.
Chelmsford	East Anglian Institute of Agriculture	F. Knowles, F.I.C.; F. W. F. Hendry, B.Sc. (Aberd.), A.I.C.; J. E. Watkin, Ph.D. (Wales), A.I.C.
Cirencester	The Royal Agricultural College	J. A. Hanley, Ph.D., A.R.C.S.; G. P. L. Miles, B.Sc.
Devizes (Wilts.)	Dauntsey Agricultural School, West Lavington	E. A. F. Vinter, B.A. (Cantab.).
Edinburgh	Edinburgh and East of Scotland College of Agriculture	A. Lauder, D.Sc. (Edin.), F.I.C.; J. McGillivray; A. M. Smith, Ph.D. (Edin.), A.I.C.; A. Comrie, B.Sc. (Edin.), A.I.C.

GLASGOW ..	West of Scotland Agricultural College (6, Blythswood Square, C.2.)	D. N. McArthur, D.Sc. (Glas.), F.I.C.; E. M. Melville, M.A., B.Sc., B.Sc. Agric. (Glas.); A.I.C.; S. M. Bowden, B.Sc. (Glas.); I. C. Jack, B.Sc. (Glas.), A.I.C.; C. L. Whittles, M.A., Ph.D. (Cantab.); P. Caldwell.
HARPENDEN ..	Rothamsted Experimental Station	*Director.*—Sir E. J. Russell, O.B.E. D.Sc., F.R.S. *Assistant Director.*—B. A. Keen, D.Sc., F.Inst.P. *Chemists.*—E. M. Crowther, D.Sc., F.I.C.; F. Tattersfield, D.Sc., F.I.C.; E. H. Richards, B.Sc., F.I.C.; H. H. Mann, D.Sc., F.I.C.; R. G. Warren, B.Sc.; G. W. S. Blair, M.A., A.I.C.; R. K. Schofield, M.A., Ph.D.; H. L. Richardson, Ph.D., A.I.C.; J. T. Martin, B.Sc., A.I.C.; L. R. Bishop, M.A., Ph.D.; F. E. Day, B.Sc., F.I.C.; Signe G. Heintze, Mag. Phil.; Miss D. Marx, M.Sc.; A. G. Norman, Ph.D., F.I.C.; A. J. Pugh, B.Sc.; J. K. Basu, Ph.D.; T. J. Mirchandani, M.Sc.; N. H. Parbery, B.Sc.Agric.; F. Troell, Fil.Lic.; B. K. Mukerji, D.Sc.; T. W. Barnes, M.Sc., A.I.C.; J. A. Danji, B.Ag.; E. C. Tommerup, B.Sc.
"	Imperial Bureau of Soil Science	*Deputy Director.*—A. F. Joseph, D.Sc., A.R.C.S., F.I.C.
KIRTON (Lincs.)	Agricultural Institute	F. W. Handley, Ph.D. (Lond.).
LEEDS	The University, Agricultural Department	N. M. Comber, D.Sc. (Lond.), A.R.C.S., F.I.C.; H. T. Jones, M.Sc. (Wales), A.I.C.; J. S. Willcox, B.Sc. (Lond.), A.I.C.; C. E. Marshall, M.Sc. (Manc.), Ph.D. (Lond.). *Ministry of Agriculture, Advisory Agricultural Chemists.*—N. M. Comber, D.Sc. (Lond.), A.R.C.S., F.I.C.; H. T. Jones, M.Sc. (Wales), A.I.C.
NEWCASTLE-UPON-TYNE	Armstrong College, Agricultural Department	A. A. Hall, M.Sc. (Vict., Liv. and Dun.), Ph.D. (Jena), F.I.C.; B. Thomas, M.Sc. (Dun.), A.I.C. *Ministry of Agriculture, Advisory Agricultural Chemist.* — B. Thomas, M.Sc. (Dun.), A.I.C.

NEWPORT (Salop)	Harper Adams Agricultural College	*Principal.*—C. Crowther, M.A. (Oxon.), Ph.D.; W. Morley Davies, M.A. (Cantab.), B.Sc. (Birm.), A.I.C.; T. O. Wilson, B.Sc. (Manc.); A. L. Provan, Ph.D. (Wales), A.I.C.; G. H. Botham, B.Sc. (Lond.); G. Owen, B.Sc. (Wales). *Ministry of Agriculture, Advisory Agricultural Chemist.*—W. M. Davies, M.A. (Cantab.), B.Sc. (Birm.), A.I.C.
OXFORD ..	School of Rural Economy, The University	*Sibthorpian Professor.*—William Somerville, M.A. (Cantab.) and Oxon.), B.Sc. (Liv.), D.Sc. (Oxon. and Dun.); C. G. T. Morison, M.A. (Oxon.). *Ministry of Agriculture, Advisory Agricultural Chemist.*—G. R. Clarke, M.A.
PIBWRLWYD (Carm.)	Farm Institute ..	*Principal.*—J. L. Lloyd, M.Sc. (Wales), A.I.C.
PRESTON ..	The Harris Institute College of Agriculture	E. Taylor, M.Sc. (Leeds).
READING ..	The University, Department of Agriculture and Horticulture	H. A. D. Neville, M.A. (Cantab.), B.Sc. (Lond.), F.I.C.; J. W. Bee, M.A. (Cantab.); S. J. Rowland, B.Sc. (Reading); J. Thompson, Ph.D. (Heidelberg), F.I.C.; N. H. Pizer, B.Sc. (Reading), A.I.C.; one vacancy. *Ministry of Agriculture, Advisory Agricultural Chemist.*—M. N. Nicholson, B.Sc. (Glas.), A.I.C.
” ..	National Institute for Research in Dairying, Shinfield	J. Golding, D.S.O., F.I.C.; W. L. Davies, Ph.D. (Cantab.), M.Sc. (Wales), F.I.C.
REASEHEATH (Nantwich)	Cheshire School of Agriculture	J. Featherstone, B.Sc. (Sheffield), M.Sc. (Dun.), A.I.C. *Ministry of Agriculture, Advisory Agricultural Chemist.*— R. Stewart, B.Sc.
ROTHAMSTED *see* (Harpenden).		
SEALE HAYNE (Devon)	Agricultural College	D. R. Edwardes-Ker, O.B.E., M.A. (Oxon.), B.Sc.; E. Vanstone, M.Sc. (Wales), D.Sc. (Birm.), F.I.C. *Ministry of Agriculture, Advisory Agricultural Chemist.*—A. Blenkinsop, B.Sc.

Sutton Bonington (Loughborough)	The Midland Agricultural and Dairy College	A. C. Burns, M.Sc.Tech. (Manc.), F.I.C. (*Head of Chemistry Dept.*); E. R. Ling, M.Sc. (Lond.), A.R.C.S., F.I.C.; G. O. Fox. *Ministry of Agriculture, Dept. of Advisory Chemistry.*—H. T. Cranfield; J. W. Blood, A.I.C.; Miss M. S. Orton.
Swanley	Horticultural College for Women	Miss H. G. Mitchell, B.Sc., (Glas.) A.I.C.
Tamworth	Agricultural College	R. Bontflour, B.Sc. (Dun.).
Usk (Mon.)	Monmouthshire Agricultural Institution	*Agricultural Science.*—L. T. Lowe, B.Sc.
Woburn	Experimental Station, Apsley Guise (*see* Harpenden), p. 157.	
Wye (Kent)	South-Eastern Agricultural College (University of London)	S. D. Fairfax Harwood, M.A. (Cantab.), F.I.C.; A. H. Burgess, B.Sc. (Lond.); W. Goodwin, M.Sc. (Manc.), Ph.D. (Göttingen); H. Martin, M.Sc. (Lond.), A.R.C.S., F.I.C.; L. W. Cole, B.Sc.Agri. (Lond.); I. B. Prowse, B.Sc. Agric. (Lond.); T. A. F. Sexton, B.Sc. (Lond.). *Ministry of Agriculture, Advisory Agricultural Chemist.*—W. Goodwin, Ph.D.

PROFESSORS AND TEACHERS OF CHEMISTRY

IN THE VETERINARY COLLEGES AFFILIATED TO THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Edinburgh	The Royal (Dick) Veterinary College (Summerhall)	R. G. Thin, B.Sc. (Edin.), F.I.C.
Glasgow	The Veterinary College (Buccleuch Street)	J. G. Duncan, A.R.T.C., F.I.C.
Liverpool	The University of Liverpool Veterinary College	*See* p. 134.
London	The Royal Veterinary College (Camden Town, N.W.1.)	G. W. Clough, D.Sc. (Birm.).

CONSULTING CHEMISTS TO AGRICULTURAL SOCIETIES, &c.

Bath and West of England Agricultural Society	J. A. Voelcker, M.A. (Cantab.), B.A., B.Sc. (Lond.), Ph.D. (Giessen), F.I.C.
British Dairy Farmers' Association	T. J. Drakeley, M.Sc., Ph.D. (Lond.), F.I.C.
Cheshire Agricultural Society	F. Robertson Dodd, F.I.C.
Derbyshire Agricultural Society	John White, F.I.C.
Devon County Agricultural Association	Bernard Dyer, D.Sc. (Lond.), F.I.C.
Essex Agricultural Society	Bernard Dyer, D.Sc. (Lond.), F.I.C.
Highland and Agricultural Society of Scotland	J. F. Tocher, D.Sc. (Aberd.), F.I.C.
Lawes Agricultural Trust	*See* Harpenden, p. 157.
Leicestershire Agricultural Society	Bernard Dyer, D.Sc. (Lond.), F.I.C.
Lincolnshire Agricultural Society	J. A. Voelcker, M.A. (Cantab.), B.A. B.Sc. (Lond.), Ph.D. (Giessen), F.I.C.
Peterborough Agricultural Society	William Elborne, M.A. (Cantab.).
Rowett Research Institute, Bucksburn, Aberdeen	*See* p. 155.
Royal Agricultural Society of England	J. A. Voelcker, M.A. (Cantab.), B.A., (Lond.), Ph.D. (Giessen), F.I.C.
Royal Horticultural Society	(*Honorary*) J. A. Voelcker, M.A. (Cantab.), B.A., B.Sc. (Lond.), Ph.D. (Giessen), F.I.C.
Royal Lancashire Agricultural Society	T. R. Hodgson, M.A. (Cantab., and Dub.), F.I.C.
Royal Scottish Arboricultural Society	Alexander Lauder, D.Sc. (Edin.), F.I.C.
Yorkshire Agricultural Society	———

TEACHERS OF CHEMISTRY IN PUBLIC AND SECONDARY SCHOOLS.

The Names of the Teachers have been supplied in most instances by the Headmasters of the Schools.

Aberdare ..	County School for Boys	S. Evans, B.Sc. (Wales), A.I.C.
Aberdeen ..	Central Secondary School	T. Duncan, M.A., B.Sc. (Aberd.); L. H. W. Adan, M.A., B.Sc. (Aberd.), A.I.C.; C. Thomson, M.A., B.Sc. (Aberd.); W. Barr, M.A., B.Sc. (Edin.); A. C. Simpson, M.A., B.Sc. (Aberd.); Miss H. Scott, M.A. (Aberd.).

ABERDEEN ..	Monquhitter Public School	A. McL. Spiers, M.A., B.Sc. (Edin.) A.I.C.
„ ..	Robert Gordon's Secondary School	H. G. Williams, B.Sc. (Lond.); G. Sheach, M.A., B.Sc. (Aberd.).
ABERFELDY ..	Breadalbane Academy	J. D. Beveridge, M.A., B.Sc. (St. Andrews); E. J. Balfour, M.A., B.Sc. (St. Andrews), *Rector*.
ABERGAVENNY	King Henry VIII Grammar School	E. O. Jones, B.Sc. (Wales); A. D. Bulman, B.Sc. (Dun.).
ABERTILLERY ..	County School ..	L. Oulton, M.Sc. (Manc.).
ABINGDON ..	Radley College	A. T. Hedgecock, M.A. (Cantab.); A. H. B. Bishop, M.A. (Oxon.); J. G. Jeffreys, B.A. (Oxon.); G. D. S. Heyworth, B.A. (Oxon.).
„ ..	Abingdon School	J. T. Ingham, B.A. (Oxon.).
ACCRINGTON ..	Grammar School	J. P. Ackroyd, B.Sc. (Leeds); H. Brook, B.Sc. (Leeds); L. J. Patchett, B.Sc. (Manc.); R. Y. Digby, B.Sc. (Manc.).
ACKWORTH (nr. Pontefract)	Ackworth School (Boys)	J. R. Bibby, M.Sc. (Leeds).
AIRDRIE ..	Airdrie Academy	H. Manners, M.A., B.Sc. (Glas.); D. Menzies, M.A., B.Sc. (Edin.); G. Southern, B.Sc. (Dun.); A. Campbell, M.A., B.Sc. (Glas.); N. Ingram, B.Sc. (Glas.).
ALCESTER ..	Grammar School	S. Hall, B.Sc. (Manc.); S. Hutton, B.A. (Cantab.).
ALDERSHOT ..	County High School	A. E. Chapman, M.A. (Oxon.), Headmaster; F. G. C. Solloway, B.A., B.Sc. (Wales); A. G. D. Maunder, B.Sc. (Lond.), A.I.C.
ALFORD (Lincs.)	Queen Elizabeth's Grammar School	J. H. Evans, B.Sc. (Wales).
ALNWICK ..	Duke's School ..	H. Haines, B.Sc. (Birm.).
ALSTON (Cumbs.)	Samuel King's Secondary School	T. Herdman, B.Sc. (Dun.).
ALTON ..	Eggar's Grammar School	E. A. Welsford, B.Sc. (Bris.).
AMBLESIDE ..	Kelsick Grammar School	W. B. Grassby, M.Sc. (Leeds).
AMERSHAM ..	Dr. Challoner's Grammar School	T. P. Oakley, B.Sc. (Lond.); W. T. Higgs.
ANDOVER ..	Grammar School	J. D. Tully, B.Sc. (Lond.), A.I.C.
APPLEBY ..	Grammar School	W. R. Baker, B.A., B.Sc. (Lond.).
ARDINGLY (Hayward's Heath)	Ardingly School	H. H. Herring, M.A. (Oxon.); A. Cree, M.A. (Cantab.).
ASHBOURNE (Derby)	Queen Elizabeth's Grammar School	H. B. Pearson, B.Sc. (Dun.).

ASHBURTON	Grammar School	E. Goodall, B.Sc. (Manc.).
ASHBY-DE-LA-ZOUCH	Grammar School	A. W. Marsh, B.Sc. (Lond.).
ASHFORD (Midd'x.)	County School	F. Wootton, B.Sc. (Lond.), A.I.C.; J. F. Berends, B.Sc. (Lond.), A.I.C.
ASHFORD (Kent)	Grammar School	C. W. Levy, M.Sc. (Lond.); W. G. Shannon, M.Sc. (Lond.).
ASHTON-IN-MAKERFIELD	Grammar School	A. Brindle, B.Sc. (Lond.).
ATHERSTONE	Grammar School	W. Cranfield.
AYLESBURY	Grammar School	A. Swallow, B.A. (Cantab.), B.Sc. (Lond.); C. A. Bartlett, B.Sc. (Lond.), A.I.C.
AYR	The Academy	D. Lavery, B.Sc. (Glas.), A.I.C.
BACUP AND RAWTENSTALL (Waterfoot)	Grammar School	E. H. Holden, M.Sc. (Vict.), A.I.C.; C. Ebden, B.Sc. (Dun.); Miss E. E. White, B.Sc. (Lond.).
BAKEWELL	Lady Manners School	E. L. Wilks, M.A. (Cantab.); A. S. McWilliam, B.Sc. (Manc.); L. G. Dobbs, B.A. (Cantab.).
BALA	Grammar School	J. W. James, B.Sc. (Wales).
BANCHORY	Secondary School	A. Gullett, B.Sc. (Lond.); A. E. Gavan, B.Sc. (Edin.).
BANFF	Banff Academy	G. F. Goodall, B.Sc. (Manc.), A.I.C.; Miss C. F. Gordon, M.A. (Aberd.); Miss M. B. McWhirter, M.A., B.Sc. (Edin.); G. Ross, B.Sc. (Aberd.).
BARKING	The Abbey School	C. W. Richardson, B.Sc. (Lond.).
BARNARD CASTLE	The School	R. F. Kennedy, B.Sc. (Liv.).
BARNET	Queen Elizabeth's School	H. W. Normanton, B.A. (Oxon.).
BARNSLEY	Barnsley and District Holgate Grammar School	T. Parkes, M.A. (Cantab.); H. D. Wing, B.Sc. (Lond.).
BARNSTAPLE	Grammar School	E. Robinson, B.Sc. (Lond.).
BARROW-IN-FURNESS	Municipal Secondary School for Boys	A. E. Bancroft, B.A., M.Sc. (Manc.); E. S. Ellwood, B.Sc.; R. Hodgkinson; H. H. Hughes, B.Sc.
BARRY (Glam.)	County School for Boys	D. W. Walters, B.Sc. (Wales); S. P. Perkins, M.Sc. (Wales), A.I.C.
” ”	Girls' County School	Miss A. G. Rees, M.Sc. (Wales), A.I.C.
BASINGSTOKE	Girls' High School	E. M. Tregoning, B.Sc. (Liv.).
”	Queen Mary's School	T. W. Smith.

Bath	City Secondary School for Boys, Guildhall	A. V. Baker, B.Sc. (Bris.).
”	King Edward's School	E. T. Langley, B.Sc. (Lond.).
”	Kingswood School	G. H. Stead, D.Sc. (Liv.), A.I.C.; R. Dodds, M.A. (Dun.).
Bathgate	The Academy	C. Carnegie, M.A. (Edin.), B.Sc. (Aberd.).
Batley	Grammar School	L. A. Coles, B.Sc. (Lond.), A.I.C.; L. Senior, M.Sc. (Leeds).
Beaminster	Grammar School	A. W. Graveson, M.A. (Cantab).
Beaumaris (Anglesey)	Grammar School	G. O. Griffiths, B.Sc. (Wales), A.I.C.
Beaumont (*see* Windsor)		
Beckenham	County School for Boys	F. F. C. Edmonds, B.A. (Cantab.), B.Sc. (Lond.); J. Flux, B.Sc. (Lond.).
Bedford	Bedford School	C. W. Hansell, B.Sc. (Lond.); A. E. Field, M.A., B.Sc. (Oxon.); R. J. Atkinson, B.Sc. (Lond.); E. Robinson, B.Sc. (Oxon.); P. Woodland, B.A. (Cantab.).
”	Modern School	F. A. Bird, M.A. (Cantab.); G. G. King, M.A. (Oxon.)
Belper	Herbert Strutt School	W. W. Tunnicliffe, B.Sc. (Lond.); W. Barker, B.Sc. (Lond.).
Belvedere (Kent)	Erith County School	G. B. Stones, M.Sc. (Manc.), A.I.C.; B. Hughes, B.Sc. (Manc.)
Berkhamsted (Herts.)	Berkhamsted School	C. Bispham, B.A. (Cantab.); E. G. Ellison, M.A. (Cantab.); E. T. B. Meyrick-Jones, B.A. (Oxon.); W. C. Lewis, B.A. (Oxon.), B.Sc. (Wales), A.I.C.
Berwick-on-Tweed	Grammar School	G. H. Ballard, M.Sc.
Bethesda	County School	A. Ffoulkes Williams, M.Sc. (Wales).
Beverley	Grammar School	E. G. Cross, B.A. (Oxon.).
Bexhill	Ancaster House School	Miss E. D. Merfield, B.Sc. (Lond.); Miss M. Riddall, B.Sc. (Manc.).
Bicester	County School	———
Bideford	Grammar School	C. J. Smith.
Bingley	Grammar School	H. Haigh, B.Sc. (Liv.), A.I.C.
Birkenhead	Birkenhead School	F. W. Hunt, B.Sc. (Lond.); J. C. Simmons, B.Sc. (Lond.).
”	Rock Ferry High School	A. Baker, M.A. (Cantab.); W. W. Ridley, B.Sc. (Dun.); E. H. Roberts, M.Sc. (Wales), A.I.C.

BIRMINGHAM ..	King Edward's Grammar School, Aston	F. T. Bentley, B.Sc. (Birm.), A.I.C.; F. Dawson, M.A.(Lond.).
„	King Edward's School (Boys)	T. J. Baker, B.Sc. (Birm.), D.Sc. (Lond.); A. S. Langley, C.M.G., M.A. (Cantab.); W. Baines, M.A. (Cantab.); H. W. Ballance, B.A. (Cantab.); A. Hare, Ph.D. (Leeds).
„ ..	King Edward VI Grammar School, Camp Hill	C. A. W. Fentiman, B.A. (Cantab.); L. M. Hollingworth, B.Sc. (Lond.); H. S. Leech.
„ ..	Central Secondary School, Suffolk Street	F. A. R. Hopkins, M.Sc. (Birm.), A.I.C.; H. Quinney, B.Sc. (Birm.); H. White, B.A. (Cantab.).
„ ..	Erdington Secondary School	Miss H. C. Randall, B.Sc. (Lond.), A.R.C.S.
„ ..	George Dixon Secondary School	J. R. Brown, M.A. (Cantab.); W. Walker, M.Sc. (Sheffield); J. Phillips.
„ ..	County High School	R. W. Thomason, M.Sc., Ph.D. (Birm.), A.I.C.
„ ..	Grammar School, Coleshill	A. Cheetham, M.Sc. (Birm.).
„ ..	King Edward VI Grammar School for Boys, Five Ways	A. E. Barker, B.A., B.Sc. (Lond.), Headmaster; R. H. Smith, B.Sc. (Manc.).
„ ..	Halesowen Grammar School	G. T. Brash, B.A. (R.U.I.); A. W. Coberne, B.Sc. (Lond.).
„ ..	Handsworth Grammar School	K. L. Kenrick, M.A. (Oxon.); A. R. W. Hutchinson, M.Sc. (Birm.).
„ ..	King's Norton Secondary School for Boys	A. James, B.A., B.Sc. (Lond.), M.Sc. (Birm.), Headmaster; T. Welburn, M.Sc. (Leeds); H. Barker, B.Sc. (Lond.); S. E. Pickering, B.Sc. (Lond.).
„ ..	King's Norton Secondary School for Girls	Miss A. C. Kellett, M.Sc. (Manc.).
„ ..	Moseley Secondary School	H. G. Lambert, B.Sc. (Birm.), A.I.C. (Physics).
„ ..	St. Philip's Grammar School, Edgbaston	W. J. Fitzgerald, B.A. (Cantab.); R. J. Taylor, B.Sc. (Birm.).
„ ..	Waverley Road Secondary School	I. L. Owen, B.Sc. (Vict.), M.Sc. (Liv.); L. E. George, B.Sc. (Birm.); L.D. Wild, B.Sc. (Birm.); A. Lucas, B.Sc.(Birm.).
„ ..	Yardley Secondary School	F. E. Richards, B.Sc. (Lond.); K. Gilbraith, B.Sc. (Manc.); R. R. Thomas, B.Sc. (Wales).

Bishops Stortford	The College ..	F. S. Young, M.A. (Oxon.), F.I.C.; W. R. Towns, B.A. (Cantab.) E. W. Edmunds, M.A., B.Sc. (Lond.); R. W. Harre, M.A. (Oxon.).
"	Herts. and Essex High School	Miss M. M. Haslam, B.Sc. (Lond.), A.I.C.
Blackburn ..	Grammar School	A. R. Earle, B.A. (Cantab. T. W. Turnbull, B.Sc. (Dun.) B. C. Wilderspin, B.A. (Cantab.).
" ..	Stonyhurst College	T. P. Haddock, M.A. (Cantab.); C. W. Howell, M.Sc. (Lond.), A.R.C.S.
Blackford (Wedmore, Som.)	Sexey's School ..	H. V. Sims, B.A. (Oxon.).
Blaenau Festiniog	County School ..	E. T. Jones, M.Sc. (Wales), F.I.C.
Blackpool ..	Arnold House School	G. Inglis, B.A. (Lond.); S. Law, B.Sc. (Vict.).
" ..	Secondary School (Boys')	J. K. Starkie, M.Sc. (Vict.), J. H. Bowman; T. H. J. Field, B.Sc. (Lond.), A.I.C.
Blandford ..	Secondary School	W. Greenhalgh.
Blaydon ..	Secondary School	G. H. Rydall, B.Sc. (Lond.).
Bloxham (nr. Banbury)	Bloxham School	K. T. Dewey, M.A. (Oxon.).
Blundell's School (*see* Tiverton).		
Blyth	Secondary School	R. Milburn, B.A. (Cantab.).
Bodmin	County School ..	R. H. Voice.
Bolton ..	Bolton School ..	E. T. Harris, M.A. (Cantab.), F.I.C.
" ..	Church Institute School	F. Slater, O.B.E., B.Sc. (Manc.), A.I.C.; J. W. Grime, B.Sc. (Manc.).
" ..	Farnworth Grammar School	R. N. Bate, M.Sc. (Manc.); J. Barton, M.Sc. (Manc.).
Bootle ..	Secondary School for Boys	A. Merrick, B.Sc. (Dun.).
Boston (Lincs.)	Grammar School	H. M. Dickson, M.A. (Cantab.); J. W. Lockwood, B.A. (Cantab.).
" ..	High School ..	Miss E. J. Vinnicombe, B.A. (Cantab.).
Bourne (Lincs.)	Grammar School	C. P. Matthews, M.A., B.Sc. (Lond.), F.C.P., F.I.C.
Bournemouth	Bournemouth School	W. G. Sewell, B.Sc. (Lond.); A. S. White, B.Sc. (Wales).
Brackley ..	Magdalen College School	A. H. B. Bishop, B.A. (Cantab.), Headmaster.
Bradfield (Berks.)	The College ..	A. P. Gardiner, B.Sc. (Lond.); D. B. Briggs, M.A. (Cantab.), F.I.C.; D. F. Osmaston, B.A.; C. B. Brown, B.A. (Cantab.).

BRADFORD	Grammar School	W. E. Clarkson, M.Sc. (Leeds); E. Jones, M.A. (Oxon.); C. G. Stirk, B.A. (Oxon.).
„	St. Bede's Grammar School	J. Creedon, B.Sc.; T. A. A. Harrison, B.Sc. (Lond.), A.I.C.
„	Belle Vue Secondary School	W. B. Holroyd, B.Sc. (Lond.); P. Segaller, B.Sc.Tech. (Manc.);
„	Belle Vue Girls' Secondary School	Miss M. W. Raistrick, B.Sc. (Leeds); Miss C. Green, B.Sc. (Leeds).
„	Carlton Secondary School for Boys	L. Whalley, B.Sc. (Leeds); S. Boyd, B.Sc. (Vict.).
„	Grange Secondary School for Boys	J. Walker, B.Sc. (Vict. and Leeds); J. A. Edge, B.Sc. (Lond.), A.R.C.S., A.I.C.
„	Hanson School	A. Stead; A. Rhodes; H. Wilson; Miss J. P. Armes, B.Sc. (Vict.).
BRADFORD-ON-AVON	County Secondary School	A. H. Baker, A.R.C.S.
BRAINTREE	County High School	R. C. Mabbs, B.Sc. (Lond.); E. F. Williamson, B.Sc. (Manc.).
BRECHIN	High School	R. C. Brown, B.Sc. (Glas.); Miss H. D. Monro, B.Sc. (Edin.).
BRECON	County School (Boys)	S. T. Isaac, M.Sc. (Wales).
BRENTWOOD (Essex)	Brentwood School	E. P. Paul, B.Sc. (Lond.); J. F. Goodger, B.Sc. (Lond.); J. F. Hough, M.A. (Cantab.).
„	County High School	Miss E. K. Nelson, B.Sc. (Lond.).
BREWOOD (Staffs.)	Brewood Grammar School	E. J. Gaman, B.Sc. (Lond.), Headmaster; P. W. Bailey.
BRIDGNORTH (Salop)	Grammar School	A. T. Jakeman, M.A. (Oxon.), A.I.C.
BRIDGWATER	Dr. Morgan's School	J. P. Templeman, B.Sc. (Lond.), A.R.C.S.
BRIDLINGTON	Grammar School	G. T. Reeve, M.A. (Cantab.); J. B. Lister, B.A. (Cantab.).
BRIDPORT	Secondary School	R. T. Alston, B.Sc. (Vict.).
BRIGG	Grammar School	H. A. Shute, B.Sc. (Lond.).
BRIGHOUSE	Rastrick Grammar School	H. Howard, M.A. (Cantab.).
BRIGHTON	Brighton College	W. H. Pryce-Jones, B.A. (Lond.); F. W. Holdgate, B.A. (Cantab.).
„	Brighton, Hove and Sussex Grammar School	T. S. Alexander, B.Sc. (Manc.), A.I.C.; C. H. Bennett, B.Sc. (Lond.); E. J. Huggett, B.Sc. (Lond.).
„	Brighton & Hove High School, Montpelier Road	Miss Z. Cramp, B.Sc. (Birm.).

BRIGHTON	Municipal Secondary School	W. Willings, B.Sc. (Lond.); H. Nuttall, M.Sc. (Manc.); D. Ridge, M.Sc. (Lond.).
"	Roedean School	Miss S. Lloyd-Williams, Nat.Sci. Trip., Cantab.; Miss M. Nightingale, B.Sc. (Lond.).
"	St. Mary's Hall, Kemptown	Y. H. Fenby, B.Sc. (Lond.).
BRISTOL	Clifton College	E. J. Holmyard, M.A. (Cantab.), F.I.C.; J. A. O. Muirhead, B.A. (Cantab.); A. C. K. Toms, M.A. (Cantab.); F. B. Finter, M.A. (Cantab.); F. A. Philbrick, B.A. (Oxon.).
"	Colston's School, Stapleton	E. A. Done, B.A. (Cantab.).
"	Colston's Girls' School	Miss E. Bull, B.Sc. (Sheffield); Miss J. G. Thompson, B.Sc. (Edin.).
"	Cotham Secondary School	H. A. M. Borland, M.Sc. (Bris.), A.R.C.S.; E. J. Riggs, B.Sc. (Lond.).
"	Fairfield Secondary School, Montpelier	J. H. Haynes, B.Sc. (Vict.); W. Williams, B.Sc. (Lond.), A.I.C.; A. E. Henderson, M.A. (Oxon.).
"	Grammar School	J. M. Harrison, M.A. (Oxon.); H. Dunnicliff, B.A. (Cantab.); R. L. Saunders, B.A. (Cantab.).
"	Kingswood Grammar School	B. Jones, B.Sc. (Lond. and Wales), L.C.P., A.I.C.
"	Merrywood Secondary School	T. G. Edwards, B.Sc. (Bris.).
"	Municipal Secondary School (St. George)	W. A. Dent, B.Sc. (Birm.).
"	Queen Elizabeth's Hospital	A. H. W. Richardson, B.Sc. (Bris.).
BROMLEY (Kent)	County School for Boys	J. Holloway, Ph.D. (Lond.), A.I.C.
BROMSGROVE (Worcs.)	Bromsgrove School	A. J. Batchelor, B.A. (Oxon.); E. Mashiter, M.A. (Oxon.); F. H. Y. Champain, B.A. (Oxon.).
"	Secondary School	G. Appleby, B.Sc. (Liv.); H. Kendrick, B.Sc. (Birm.).
BROMYARD (Worcs.)	Queen Elizabeth's Grammar School	A. W. Tuckey, B.Sc. (Lond.), Headmaster; J. H. Oldfield, B.A. (Cantab.).
BRORA (Sutherland)	H.G. School	J. D. Alexander, B.Sc. (Edin.).
BROXBURN	High School	Miss I. Scobbie, M.A., B.Sc. (Edin.); A. F. Steel, M.A., B.Sc. (Edin.).
BRUTON (Som.)	Sexey's School	H. Crowther, B.Sc. (Leeds).

Brynmawr (Brecon)	County School	T. W. Price, M.A. (Cantab.), M.Sc. (Wales), A.I.C., Headmaster; B. Reynolds, B.Sc. (Wales).
Buckingham	Stowe School	E. S. Dewing, M.A. (Cantab.); B. R. Miles, B.A. (Oxon.); M. D. Prain, M.A. (Edin.).
Bungay (Suffolk)	Grammar School	C. H. Lockitt, M.A., B.Sc. (Lond.), Headmaster.
Burford (Oxon.)	Grammar School	W. R. Heaton, M.A. (Oxon.).
Burnley	Grammar School	B. J. Sumner, B.A., B.Sc. (Lond.).
"	High School	Miss M. Moore, M.Sc. (Leeds).
Burntisland	H.G. School	W. M. Dalton, B.Sc. (Dun.).
Bury (Lancs.)	Grammar School	C. H. G. Sprankling, B.Sc. (Lond. and Bris.).
"	Municipal Secondary School	S. J. Bunting, M.Sc. (Manc.).
Bury St. Edmunds	East Anglian School	C. Marston, B.A. (Cantab.).
"	King Edward VI Grammar School	J. M. Wadmore, M.A. (Oxon.); H. T. Hendin, B.A. (Leeds); A. H. Kennedy, M.Sc. (Liv.), A.I.C.
"	W. Suffolk County School	J. R. Brown, M.A. (Cantab.); E. Froude, B.Sc. (Lond.); N. F. Watterson, B.Sc. (Lond.), A.I.C.
Buxton	Buxton College	H. S. Lawson, M.A. (Cantab.).
"	Tideswell School	S. Roe, B.Sc. (Manc.).
Caernarvon	County School	F. W. Keeling, B.A., A.R.C.S.
Caistor (Lincs.)	Grammar School	J. Player.
Callander	McLaren High School	F. W. L'Amie, M.A., B.Sc. (Edin.); Miss Grace C. Lewars, B.Sc. (Edin.).
Callington (Cornwall)	County School	Miss J. A. Fraser, M.A., B.Sc. (Aberd.).
Calne (Wilts.)	Secondary School	J. Haddon, B.Sc. (Dun.).
Cambridge	The Leys School	H. Brownsword, M.A. (Cantab.); H. J. Rose, M.A. (Cantab.).
"	Paston House School	Miss Isobel Palmer, B.Sc. (Liv.).
"	Perse School	H. A. Wootton, M.A. (Cantab.), B.Sc. (Lond.); R. J. Gladden, B.A. (Cantab.).
"	Cambridge and County High for Boys	A. Sutcliffe, M.A. (Cantab.), B.Sc. (Lond.), A.I.C.; J. S. Bousfield, B.A. (Cantab.), A.R.C.S.; A.I.C.

CAMELFORD	Grammar School	C. E. Leese, B.Sc. (Birm.).
CANTERBURY	Kent College	H. J. Tovey, B.Sc. (Lond.)
"	King's School	H. Goodburn, B.Sc. (Liv.); Rev. A. S. Mayne, B.A. (Lond.); H. F. Sharpe, B.Sc. (Wales); J. W. Hesselgreaves, B.A., B.Sc. (Cantab.).
"	St. Edmund's	A. D. McDonald, B.A. (Cantab.).
"	The Simon Langton Boys' School	C. W. Smith, B.Sc. (Lond.); E. A. Scott, A.R.C.S.
CARDIFF	Intermediate School	O. J. Hobbs, B.A. (Oxon.), B.Sc. (Lond.).
"	Canton Municipal Secondary School for Boys	J. E. King, B.Sc. (Bris.); R. F. B. Caukwell, B.Sc. (Lond.).
"	Heathfield House Secondary School	Miss A. Donnellan, M.Sc.
CARDIGAN	The County School	D. J. Hill, B.Sc.
CARLISLE	Grammar School	D. H. Shepherd, M.A., B.Sc. (Vict.), A.I.C.; L. E. Banks, B.Sc. (Dun.).
CARLUKE	H.G. School	J. W. Fordyce, M.A. (Aberd.); H. P. Thornton, M.Sc. (Leeds); J. Anderson, B.Sc. (Glas.), A.I.C.; J. Hamilton, M.A. (Glas.).
CASTLEFORD	Secondary School	E. P. Wilson, M.Sc. (Leeds), A.I.C.; Miss I. Woodward, B.Sc. (Leeds).
CASTLETON (Isle of Man)	King William's College	Rev. E. H. Stenning, M.A. (Cantab.); S. B. Boulter, M.A. (Oxon.); J. B. Nelson, B.A. (Vict.).
CATERHAM	Caterham School	A. P. Mottram, B.Sc. (Lond.), Headmaster; F. C. Orpet, B.Sc. (Lond.); A. S. Wright, B.Sc. (Lond.); J. A. Wenden, B.Sc. (Lond.); W. N. Maddock, B.Sc. (Lond.); R. Lindsay, B.Sc. (Lond.), A.I.C.
CHARTERHOUSE SCHOOL, *see* GODALMING.		
CHATHAM	County School	Miss P. Nanney, M.Sc. (Vict.).
CHELMSFORD	Edward VI School	G. W. Baker, B.A., B.Sc. (Lond.).
CHELTENHAM	The College	G. W. Hedley, M.A. (Oxon.); H. R. Stevens, M.A., Ph.D. (Cantab.); S. H. Stevens, M.A. (Cantab.); F. Wood, M.A. (Oxon.); S. D. Scott, M.A. (Cantab.); H. F. Jones, M.A. (Dub. and Lond.); S. E. Baker, M.A. (Cantab.).
"	Dean Close School	R. M. Thomas, B.A. (Cantab.).

Cheltenham	Ladies' College	Miss C. Coley, Nat. Sci. Trip. (Cantab.); Miss A. B. Baillie, M.Sc. (Belfast); Miss M. M. Hawthorn, B.A. (Cantab.).
Chester	City and County School for Boys	B. A. Lewis, M.A., B.Sc. (Liv.), A.I.C.; C. G. Hawkins, B.Sc. (Lond.).
„	King's School	C. Holt, B.Sc. (Lond.), A.R.C.S.
Chester-le-Street	Secondary School	W. Thompson, B.Sc. (Dun.); Miss N. S. Brown, B.Sc. (Dun.).
Chesterfield	Grammar School	H. Ingham, M.Sc. (Manc.), A.I.C.; D. J. Chittenden, B.A. (Cantab.); D. Barnett, B.A. (Cantab.); J. R. Owen, B.Sc. (Wales).
„	Staveley Netherthorpe Grammar School	A. R. Blackburn, B.Sc. (Lond.), A.R.C.S., Headmaster; G. A. Bartram, B.Sc. (Lond.), A.I.C.; R. H. McCrea, B.Sc. (Lond.); A. C. Boston, B.Sc. (Birm.).
Chigwell (Essex)	Chigwell School	R. M. Dyball, M.A. (Cantab.).
Chippenham (Wilts.)	County Secondary School	C. G. Adams, M.A., B.Sc. (Bris.), A.I.C.
Chipping Campden (Glos.)	Grammar School	T. Winward, B.Sc. (Manc.).
Chipping Sodbury (Glos.)	Grammar School	C. D. Waters, M.A. (Cantab.).
Chorley	Grammar School	W. Grindrod, B.Sc. (Manc.).
(Christ's Hospital, *see* West Horsham.)		
Cinderford (Glos.)	Secondary School	Miss L. J. Bullock, B.Sc. (Lond.), A.R.C.S.
Cirencester	Grammar School	H. Buckley, B.Sc. (Lond.).
Cleckheaton (Yorks.)	Whitcliffe Mount School	Miss A. R. Rollinson, B.Sc. (Lond.), A.C.G.I.
Cleobury Mortimer	Childe's School, The College	F. T. Cheetham, M.Sc. (Vict.), Headmaster.
Clifton College	(*see* Bristol).	
Clitheroe	Royal Grammar School	C. A. Ireland, M.Sc. (Vict.).
Coalbrookdale (Salop.)	County High School	C. Hartland, B.Sc. (Liv.).
Coatbridge	Secondary School	K. H. Cochran, M.A., B.Sc. (Andrews), A.I.C.; A. Leishman, M.A., B.Sc. (Glas.), A.I.C.; G. H. Train, B.Sc. (Glas.), A.I.C.
Colchester	Royal Grammar School	A. Plowman, M.Sc. (Lond.), A.R.C.S., A.I.C.; E. Denne, B.Sc. (Lond.); H. T. Chamberlain, B.Sc. (Birm.); H. Rigby.
Colwyn Bay	Penrhos College	Miss E. Goodall.
„	Secondary School	T. O. Griffiths, B.Sc. (Lond.), A.I.C.

Consett (Co. Durham)	Secondary School	E. C. Jones, M.Sc. (Dun.); H. Briggs; Miss A. M. Wilson, B.Sc. (Dun.); R. E. French, B.Sc. (Dun.); P. E. Robinson, M.Met. (Sheffield).
Cosham (Hants.)	County High School	E. Stedman, M.Sc. (Vict.), A.I.C. H. W. Hughes, B.Sc. (Birm.).
Coventry ..	Bablake School	M. Stokes, B.Sc. (Lond.); G. Atkinson, B.A. (Cantab.).
" ..	Barrs Hill Secondary School	Miss M. W. Odell, B.Sc. (Lond.), A.R.C.S.
" ..	King Henry VIII School	J. Ritchie, B.Sc. (Manc.); F. H. Metcalf, B.Sc. (Lond.).
" ..	Stoke Park Secondary School, Brays Lane	Miss B. Furniss, B.Sc. (Lond.); Miss M. Smith, B.Sc. (Lond.).
Cowbridge (S. Wales)	Cowbridge Grammar School	J. D. Owen, B.A. (Wales).
Cranbrook .. (Kent)	Cranbrook School	C. R. Scott, M.A. (Cantab.), Headmaster; S. W. F. Wheatcroft, B.Sc. (Leeds).
Cranleigh (Surrey)	Cranleigh School	F. A. B. Brett, M.A. (Cantab.), B.Sc. (Lond.), F.C.P.; C. E. H. Jacobs, B.Sc. (Vict.).
Crawley (Sussex)	Milton Mount College	Miss D. Turpin, B.Sc. (Lond.); Miss M. E. Young, B.Sc. (Birm.).
Crediton ..	Queen Elizabeth's Grammar School	A. S. Mason, B.Sc. (Lond.).
Crewe ..	County Secondary School	O. R. Howells, M.Sc. (Lond.), A.I.C.
Crewkerne (Somerset)	Crewkerne School	L. N. Deeley, B.Sc. (Birm.), A.I.C.
Croydon ..	Convent of the Ladies of Mary	Miss M. E. Baillon; Miss E. M. Veysey, B.A. (Oxon.).
" ..	Croham Hurst School	Miss I. M. Hurselbee, B.Sc. (Lond.)
" ..	The Limes School, Melville Avenue	H. G. Atkinson, M.A. (Cantab.); A. I. Curry, B.A. (Cantab.).
" ..	Selhurst Grammar School for Boys	W. H. Bentley, M.A. (Oxon.), Headmaster; J. A. Stevenson, M.A., B.Sc. (Edin.), A.I.C.; A. W. Pritchard, B.Sc. (Lond.), A.I.C.
" ..	Whitgift School	H. G. F. Micklewright, M.A. (Oxon.); S. W. Richardson, M.A. (Cantab.), D.Sc.; W. A. H. Lewis, B.A. (Cantab.).
" ..	Whitgift Middle School	G. R. Shutt, M.A. (Cantab.); R. P. Preston, B.Sc. (Lond.).
" ..	High School for Girls	Miss F. M. Harrison, A.I.C.
Cumnock .. (Ayr)	The Academy ..	J. Baird, B.Sc. (Glas.), A.I.C.
Dalry	H.G. School ..	W. L. Morss, M.Sc. (Manc.).

DARLINGTON ..	Grammar School	D. R. Carrick, B.Sc. (Dun.); W. S. Richardson, B.Sc. (Cantab.); J. P. Leighton, B.Sc. (Dun.).
" ..	S. Mary's Grammar School	M. Gallagher, M.Sc. (Dun.), A.I.C.
DARTFORD (Kent)	Grammar School	T. B. Price, B.Sc. (Wales), A.I.C.
DARTMOUTH ..	Royal Naval College	*See* p. 127.
" ..	Secondary School	H. C. Lloyd, B.Sc. (Birm.).
DARWEN (Lancs.)	Secondary School	J. Foulds, A.R.C.S.
DAVENTRY (Northants.)	Grammar School	D. J. Lake, B.Sc. (Lond.).
DENBIGH ..	County School ..	J. W. Askew, B.Sc. (Lond. and Wales).
" ..	Howell's School ..	Miss M. E. Brown, B.Sc. (Lond.).
DENSTONE (Staffs.)	The College ..	A. W. Huskinson, B.Sc. (Lond.); J. L. Smith, B.A. (Cantab.); J. T. Deighton, B.A., B.Sc. (Oxon.).
DERBY ..	Derby School ..	C. Melling, B.Sc. (Vict.).
" ..	Municipal Secondary School	R. Baxter, B.Sc. (Dun.); W. S. Spencer.
" ..	Parkfield Cedars Secondary School for Girls	Miss E. Wade, B.Sc. (Lond.), A.I.C.
DEVIZES ..	Secondary School	W. G. Jones, B.A. (Wales).
DEVONPORT ..	High School ..	J. H. Ferrars, B.Sc. (Lond.); R. Ferrars, M.A. (T.C.D.); C. F. Austin, B.A. (T.C.D.).
" ..	Municipal Secondary School for Girls	Miss D. G. Neale, B.Sc. (Lond.), A.I.C.
DEWSBURY ..	Wheelwright Grammar School	H. T. Sorrell, B.Sc. (Lond.); C. V. Chester, B.A. (Oxon.).
DINGWALL ..	The Academy ..	J. Clark, M.A., B.Sc. (Aberd.); A. M. Macfarquhar, M.A. (Aberd.).
DONCASTER ..	Grammar School	P. G. Mander, B.Sc. (Lond.), A.I.C.; S. P. Davis, M.Sc. (Liv.); K. H. Hagopion, B.Sc. (Lond.); J. L. Howl, B.Sc. (Birm.); I. G. Jones, B.Sc. (Wales), A.I.C.
DORCHESTER ..	Grammar School	A. B. Williams, A.C.P.
DOVER	The College ..	A. Ewart, B.Sc. (Dun.).
"	County Boys' School	A. B. Constable, M.A., B.Sc. (Oxon.); H. H. Jacques, B.Sc. Eng. (Lond.), A.R.C.S.; S. A. Coase, B.Sc. (Lond.).
DRONFIELD ..	Grammar School	H. Preece.

DUDLEY ..	Grammar School	G. Newton, M.A., B.Sc. (Birm.).
DULWICH COLLEGE (*see* LONDON).		
DUMBARTON ..	St. Patrick's High School	W. A. Hepburn, M.A. (Glas.); B. Cairney, M.A., B.Sc. (Glas.); J. Barr, B.Sc. (Glas.); J. J. Hart, B.Sc. (Glas.); A. Douglas, B.Sc. (Glas.); R. Rodger, M.A., B.Sc. (Glas.); W. B. Black, M.A., B.Sc. (Glas.).
DUMFRIES ..	Dumfries Academy	J. Gall, M.A., B.Sc.; W. G. S. Moor, B.Sc.; Miss L. I. Murray, B.Sc.; Miss B. Moffat, M.A.
” ..	Wallace Hall Academy	S. H. Millar, B.Sc. (Lond.), A.I.C.
DUNBAR ..	Secondary School	R. Macaulay, M.A., B.Sc. (Glas.); J. C. Strachan, M.A. (Edin.); D. B. Paterson, B.Sc. (Edin.).
DUNDEE ..	High School ..	T. S. Murray, D.Sc. (Edin.).
DUNSTABLE ..	Grammar School	W. D. Coales, B.Sc. (Lond.).
DURHAM ..	Durham School	H. M. Wilkinson, M.A. (Cantab.); G. H. Calpin, B.A. (Cantab.).
” ..	Johnston Schools	S. Whalley, B.Sc. (Lond.), A.R.C.S.; M. J. Sayburn, M.Sc. (Dun.), A.I.C.; W. Dinning, B.Sc. (Dun.).
DURSLEY (Glos.)	Secondary School	E. Barrett, B.Sc. (Lond.), A.I.C.
EARLS COLNE (Essex)	Grammar School	O. W. Layzell, B.A. (Cantab.).
EAST DEREHAM	High Schools for Girls	Miss E. M. Coumbe, B.Sc. (Lond.).
EASTBOURNE ..	The College ..	C. V. Temperley, B.Sc. (Lond.); E. C. Lester, B.Sc. (Vict.); H. K. Bagnall-Oakeley, M.A. (Cantab.).
” ..	Grammar School	W. L. Vellender, B.Sc. (Lond.).
EBBW VALE ..	County School ..	H. I. Hughes, Ph.D. (Wales), A.I.C.
ECCLES (Lancs.)	Secondary School	J. H. Gunter, M.Sc. (Manc.).
EDINBURGH ..	Boroughmuir Secondary School	J. W. Swanney, B.Sc. (Edin.), A.I.C.; C. H. W. G. Anderson, B.Sc. (Edin.); C. R. W. Stephenson, M.Sc. (Leeds).
” ..	Broughton Secondary School	J. M. Nisbet, M.A., B.Sc. (Edin.); G. O. McNab, M.A. (Edin.); W. M. Ogilvie, M.A., B.Sc. (Edin.); J. Thorburn, M.A., B.Sc. (Edin.); R. K. S. Mitchell Ph.D. (Edin.), A.I.C.

EDINBURGH	Edinburgh Academy	M. M'Callum Fairgrieve, M.A. (Glas. and Cantab.); R. T. Dawson, M.A. (Cantab.); W. P. D. Wightman, M.Sc. (Lond.), A.R.C.S., A.I.C.; A. O. Chesters, B.A. (Cantab.), B.Sc. (Lond.).
"	George Heriot's School	J. H. Melville, M.A. (Edin.); G. Hamilton, M.A. (Edin.); G. A. Scott, M.A., B.Sc. (Edin.); A. M. Young, M.A. (Edin.); D. R. K. Middlemass, M.A. (Edin.); J. Morrison, M.A., B.Sc. (Edin.); W. T. Brow, B.Sc. (Edin.), A.I.C.; A. T. Grover, B.Sc. (Edin.), A.I.C.; R. Borthwick, M.A., B.Sc. (Edin.); I. Sandeman, Ph.D. (St. Andrews).
"	George Watson's Boys' College	W. C. Forsyth, M.A. (Edin.), B.Sc. (Glas.), A.I.C.
"	Holy Cross Academy	W. Anderson, B.Sc. (Edin.), A.I.C.
"	Merchiston Castle School	H. S. Young, M.A. (Oxon.); W. E. Hill, B.A. (Cantab.).
"	Portobello Secondary School	T. H. Sutherland, B.Sc. (Edin.); J. Hawley, B.Sc. (Edin.).
"	Royal High School	A. F. Ewan, M.A., B.Sc. (Edin.); J. B. McKay, M.A., B.Sc. (Edin.); T. D. F. Scott, M.A., B.Sc. (Edin.).
ELLAND (Yorks.)	Elland & District Secondary School	J. P. Butterworth, B.Sc. (Manc.), A.I.C.
ELLESMERE	St. Oswald's School	J. W. Turner, M.A. (Cantab.).
ELY	King's School	Rev. T. J. Kirkland, B.Sc. (Lond.), A.K.C., F.I.C.; G. R. H. Ford, B.Sc.
ENFIELD	Grammar School	E. M. Eagles, M.A. (Cantab.), Headmaster; T. Lakeman, B.Sc. (Lond.); D. W. Rosling, B.Sc. (Lond.); F. W. Elmer, B.Sc. (Lond.), A.I.C.
EPSOM	The College	A. C. Powell, M.A. (Cantab.); H. E. Gardner, B.Sc. (Lond.); J. N. Peart, B.A. (Cantab.).
"	County School	E. W. J. Neave, M.C., B.Sc. (Lond.), A.I.C.
"	Rosebery Girls' County School	Miss S. Taylor, B.Sc. (Manc.), A.I.C.

Eton	The College	T. C. Porter, M.A., D.Sc. (Oxon.); M. D. Hill, M.A. (Oxon.); C. E. Sladden, B.A. (Oxon.); C. Mayes, M.A. (Cantab.); R. T. Assheton; W. N. Roe, B.A. (Oxon.); R. E. Marsden; R. Weatherall, B.A.; A. E. Foot, B.A.; C. K. Hillard, B.A.; C. R. White-Thomson, B.A.
Evesham	Prince Henry's Grammar School	E. I. Bayford, M.Sc. (Sheffield); S. R. Haselhurst, D.Sc. (Dun.), Headmaster.
Exeter	Exeter School	J. H. Bilsborough, B.A.(Cantab.); B. Foster, B.Sc. (Lond.).
„	Hele's School	W. Littler, B.A., B.Sc. (Lond.); S. J. Hayward, B.Sc. (Lond.).
Eye (Suffolk)	Grammar School	J. H. Smedley, M.Sc. (Birm.); Miss V. J. Brown, B.A. (Wales).
Falmouth	Grammar School	H. J. Gray, A.R.C.S.
Fareham (Hants.)	Price's School	A. S. Gale, B.A. (Oxon.); R. E. Garton, B.Sc. (Lond.).
Faringdon (Berks.)	County Girls' School	Miss Pengilly, B.Sc. (Lond.).
Farnborough (Hants.)	County Secondary School	B. J. Price, B.Sc. (Wales), A.I.C.
Farnham (Surrey)	Grammar School	H. G. Shelton, B.Sc. (Lond.).
Felsted (Essex)	Felsted School	C. Chitlock, M.A. (Cantab.); E. A. Philpots, M.A. (Cantab.); T. Cooper, M.A. (Cantab.).
Fettes College (*see* Edinburgh).		
Fleetwood	Rossall School	J. Griffin, M.A. (Cantab.); R. A. M. Harris, M.A. (Oxon.), A.I.C.
„	Secondary School	A. Brier, B.Sc. (Vict.), M.Sc. (Leeds); H. H. Wallace, B.Sc. (Dun.).
Fochabers	Milne's Institution	W. Stratton, M.A. (Glas.).
Folkestone	County School for Girls	Miss M. A. Mellor, B.Sc. (Manc.).
„	Harvey Grammar School	A. Brooks, B.Sc. (Lond.); H. F. Watts, B.Sc. (Lond.).
Forfar	Forfar Academy	J. B. Rodger, M.A., B.Sc. (St. Andrews); A. I. J. Fairweather, M.A., B.Sc. (St. Andrews); Miss Jane Barron, M.A.(Aberd.).
Fort William	Secondary School	J. R. Farquhar, M.A. (Glas.); J. R. Taig, B.Sc. (Glas.).
Framlingham (Suffolk)	The College	C. E. Thomas, B.Sc. (Wales); A. L. Beasley, B.Sc. (Lond.).
Fraserburgh	The Academy	S. Lipp, M.A., B.Sc., B.Sc.Agr. (Aberd.); Miss M. Cameron, B.Sc. (St. Andrews).
Frome (Som.)	The County School	T. T. Foster, M.Sc. (Vict.), Headmaster.

GAINSBOROUGH	Grammar School	A. L. Stephens, B.Sc. (Lond.).
GIGGLESWICK SCHOOL (*see* SETTLE).		
GILLINGHAM (Dorset)	Grammar School	W. E. Hurley, B.Sc. (Bris.).
GILLINGHAM (Kent)	County School ..	J. D. Crabtree, B.Sc. (Lond.), A.R.S.M.; L. J. M. Coleby, M.A. (Cantab.), B.Sc. (Lond.); W. F. Spinks, M.A. (Cantab.).
GLASGOW ..	Albert H.G. School, Springburn	W. Garland, B.Sc. (Glas.), A.I.C.
	Albert Road Academy, Pollokshields	S. J. Bernstein, B.Sc. (Glas.), A.I.C.
„ ..	Allan Glen's School	J. M. Hird, B.Sc. (Lond.), A.R.C.S., A.I.C.; M. S. Downie, B.Sc. (Glas.); R. P. McKell, B.Sc. (Glas.), A.I.C.; A.Hood, B.Sc. (Glas.), A.I.C.
„ ..	Bellahouston Secondary School	W. Hallum, B.Sc. (Glas.), A.I.C.
„ ..	High School, Elmbank Street	R. A. Nicolson, M.A., B.Sc. (Glas.); W. Douglas, M.A. (Glas.), B.Sc. (Lond.); J. M. Cuthbertson; H. Smith, M.A., B.Sc. (Glas.); W. M. Gregory, B.Sc. (Vict.); W. Whalley, M.Ed., B.Sc. (Vict.), A.I.C.; J. P. McHutchison, M.A., B.Sc. (Glas.).
„ ..	Glasgow Academy	E. P. Kaye, M.Sc.; T. H. Parry, B.A.
	High School for for Girls	Miss E. Stevenson, B.Sc. (Manc.); Miss A. F. Bate, B.Sc. (Lond.), Miss M. Calder, B.Sc. (Glas.); Miss M. Sime, B.Sc. (St. Andrews; Miss E. McDougall, B.Sc. (Glas.)
„ ..	Kelvinside Academy	A. H. Miller, M.A., B.Sc.
	Shawlands Secondary School	J. Purdie, M.A., B.Sc.; J. Bennett, M.A. (Glas.); J. C. Holmes, B.Sc. (Glas.); W. H. Brown, B.Sc. (Glas.).
„ ..	Woodside Secondary School	W. S. Ritchie, B.Sc. (Lond.), F.I.C.
GLENALMOND (Perthshire)	Trinity College	W. L. Prichard, B.A. (Oxon.).
GLOSSOP ..	Grammar School	C. J. Casey, B.Sc. (Lond.); H. O. Hodgett.
GLOUCESTER ..	Crypt School ..	E. C. White, B.Sc. (Lond.); A. A. G. Whitehouse, M.A. (Cantab.), B.Sc. (Lond.).
„ ..	High School ..	H. M. C. Eborall, B.A. (Cantab.), B.Sc. (Lond.).
..	Sir Thos. Rich's School	H. G. Sherwood.

GODALMING (Surrey)	Charterhouse School	F. R. L. Wilson, M.A. (Oxon.); J. C. Thomson, M.A., B.Sc. (Oxon.); R. L. Poole, M.A. (Oxon.)
GOOLE (Yorks.)	Secondary School	L. A. Coxon, B.Sc. (Leeds), M.Sc. (Vict.); R. H. Martin, B.Sc. (Leeds); Miss Vera M. Hunter, M.Sc. (Leeds).
GOSPORT	Gosport School	L. C. Keating, M.A. (Cantab.); H. E. Evans, B.Sc. (Lond.); J. Cox, B.Sc. (Lond.).
GRANTHAM	King's School	W. Rowell, B.Sc. (Lond.), A.R.C.S.; T. H. Brunyee, B.Sc. (Sheffield), A.I.C.
GRAVESEND	County School for Boys	E. G. Griffiths, B.A.,B.Sc.(Lond.); A. C. Penney, B.Sc. (Lond.).
GRAYS	Palmer's School	W. J. R. Henley, M.Sc. (Lond.).
GREAT AYTON (Yorks.)	Friends' School	B. C. Coates, B.Sc. (Bris.); J. Wallace, B.Sc. (Dun.).
GREAT YARMOUTH	Grammar School	R. P. Burwell, B.Sc. (Lond.), A.I.C.; W. H. Way, B.Sc. (Bris.)
GREENOCK	High School	N. D. F. Tosh, B.Sc. (Glas.), A.R.T.C., A.I.C.
GRIMSBY	Clee Grammar School	G. M. Jones, B.Sc. (Wales).
"	Wintringham Secondary School	E. J. Stream, M.A.; H. W. Agar; J. C. Heyworth, B.Sc., G. H. Cresswell. B.Sc.; A. G. Cast, B.Sc.; Miss M. Baker.
GUERNSEY	Elizabeth College	A. Littlewood, M.A. (Cantab.).
GUILDFORD	High School	Miss S. A. Burr, B.Sc. (Edin.).
"	Royal Grammar School	H. N. Weller, M.A. (Cantab.); A. G. Walker, B.A., B.Sc.(Liv.); G. A. White, B.Sc. (Lond.).
HAILEYBURY (Herts.)	The College	J. Talbot, M.A. (Cantab.), B.Sc. (Lond.); A. Pickles, M.A., LL.B. (Cantab,); R. Slater, M.A. (Cantab.); B. K. Harris, B.A. (Cantab.); Col. C. C. Champion, M.A. (Cantab.); D. A. Norwood, B.A. (Cantab.).
HALIFAX	Council Secondary School	T. K. Kaye, B.Sc. (Lond.); H. C. Cockroft, B.Sc. (Lond.), A.I.C.
"	Crossley and Porter School	G. B. Newport, M.A. (Cantab.).
"	Heath Grammar School	A. D. Phoenix, M.A. (Oxon.).
"	Hipperholme Grammar School	V. Collier, B.Sc. (Lond.), A.K.C.
"	Secondary School for Girls, Craven Lodge.	Miss K. Woodhouse, B.Sc. (Liv).

HAMILTON (Lanark)	Hamilton Academy	G. S. Ferrier, Ph.D., (Glas.), A.R.T.C., A.I.C.
HARPENDEN ..	St. George's School	J. T. Johnson, M.A. (Oxon. and Dun.); C. H. Hardingham, M.A. (Cantab.); Miss F. Broatch.
HARROGATE ..	Ashville College New College	E. Howarth, M.Sc. (Manc.); J. Winders, B.A. (Cantab.).
" ..	Pannal Ash College	W. A. L. Hill, M.A. (Cantab.).
HARROW ..	County School for Boys	G. Thorn, B.Sc. (Bris.); W. T. Heys, B.Sc. (Dun.); E. Evans, B.Sc. (Lond.); F. W. Turner, M.Sc. (Lond.).
" ..	Harrow School ..	A. Vassall, M.A. (Oxon.); B. Middleditch, M.A. (Cantab.); J. F. F. Rowland, B.A. (Cantab.), A.I.C.; A. N. Wilkins, M.A., B.Sc. (Cantab. and Lond.); W. H. Barrett, M.A. (Oxon.); W. J. R. Calvert, M.A. (Cantab.); C. L. Bryant, M.A. (Cantab.), B.Sc. (Lond.); F. W. T. James, B.A. (Oxon.).
" ..	Lower School of John Lyon	O. A. Le Beau, B.A., B.Sc. (Lond.).
HARTLEBURY (*see* KIDDERMINSTER).		
HARTLEPOOL ..	Henry Smith School	T. R. Bell, B.Sc. (Dun.), A.I.C.; M. S. Coldbeck, B.Sc. (Leeds).
HARWICH ..	County High School, Dovercourt	T. W. Leadbetter, B.Sc. (Lond.); Miss M. D. Allen, B.Sc. (Manc.); Miss N. Davies, B.Sc. (Wales).
HASLINGDON (Lancs.)	Secondary School	F. Barton, B.Sc. (Manc.); E. W. J. Moore, B.Sc. (Lond.)., A.I.C.
HASTINGS ..	Grammar School	E. G. Hole, B.Sc. (Birm.), A.I.C.
" ..	University School	G. M. Norman, B.Sc. (Lond.), A.R.C.S., F.I.C.
HATCH END ..	Royal Commercial Travellers' School	W. F. Willott, B.Sc. (Bris.).
HAVERFORDWEST	The Grammar School	A. T. Allen, M.A. (Oxon.); A. Mortimer, B.A. (Oxon.); A. G. Samuel, M.A. (Oxon.), B.Sc. (Wales).
HAWARDEN ..	County School ..	F. Roberts, B.Sc. (Wales), A.I.C.
HAWICK (Roxburgh) ..	High School ..	J. A. McKerrow, M.A., B.Sc. (Glas.), A.I.C.; J. A. Jack, B.Sc. (Glas.), A.I.C.; A. Hobkirk, B.Sc. (Edin.); Miss M. Lawson, B.Sc. (Edin.).

Heanor (Derby)	Secondary School	C. G. Betts, B.Sc. (Lond.); Miss P Grimwood, B.Sc. (Leeds).
Hebden Bridge (Yorks.)	Secondary School	H. Helliwell, B.Sc. (Vict.).
Heckmondwike (Yorks.)	The School	C. E. Womersley; W. Pearson, M.Sc. (Leeds); W. Lowe, B.Sc. (Manc.).
Helston (Corn.)	County School	J. S. Jennings, B.Sc. (Leeds).
Hemsworth (Pontefract)	Secondary School	R. T. Shiells, B.Sc. (Lond.).
Henley-on-Thames	Royal Grammar School	C. A. Taylor, B.Sc. (Lond.).
Hereford	Cathedral School	F. W. Brooks, B.Sc. (Lond.); I. Ll. Beynon, B.A. (Oxon.).
„	High School (Boys)	D. Borar, B.Sc. (Wales); E. W. Daniel, B.A. (Lond.).
Hertford	Christ's Hospital (Girls')	Miss M. Bruce, B.Sc. (Lond.).
„	Grammar School	T. A. Blake, B.Sc. (Lond.), A.I.C.
Heywood (Lancs.)	Grammar School	G. A. Gregory, B.Sc. (Leeds).
High Wycombe	Royal Grammar School	J. M. Pullan, M.Sc. (Lond.), A.I.C.; A. S. Watt, B.Sc. (Lond.).
„	Wycombe High School	Miss A. E. Davies, M.Sc. (Liv.).
Hinckley	Grammar School	H. W. V. Player, B.Sc. (Lond.), A.I.C.
Hindley (Wigan)	Grammar School	T. Pennington, B.Sc. (Manc.); W. Atherton, B.Sc. (Manc.), A.I.C.
Hitchin	Boys' Grammar School	A. Renny, M.A., B.Litt. B.Sc., (St. Andrews); E. F. Whitworth, B.Sc. (Lond.); H. J. Webb, B.Sc. (Lond.); F. B. Bowker.
„	Girls' Grammar School	Miss E. Allright, B.Sc. (Leeds); Miss M. A. Flinn, B.Sc. (Liv.), L.R.A.M.
Holt (Norfolk)	Gresham's School	J. L. Russell, B.A. (Cantab.).
Holyhead	County School	J. M. Hughes, B.Sc. (Lond. and Wales).
Horsham	Collyer's School	F. B. Carter; J. R. D. Greenop, B.Sc. (Lond.); F. A. Potter.
„	High School	Miss D. F. Leslie, B.Sc. (Lond.).
Houghton-le-Spring	Secondary School	H. C. Smith, Ph.D. (Dun.).
Horwich (Lancs.)	Rivington and Blackrod Grammar School	C. T. Harding, B.A., M.Sc. (Q.U.B.).
Hucknall (Notts.)	County Secondary School	T. E. Smith, B.Sc. (Lond.).
„	Greenland High School	Miss J. S. Shaw, B.Sc. (Liv.); Miss M. Hewlett, M.Sc. (Leeds); Miss E. C. Gilmore, A.R.C.Sc.I., A.I.C.; Miss W. Pope, B.Sc. (Lond.).

HUDDERSFIELD	Holmfirth Secondary School	R. B. Calder, M.A. (Cantab.), B.Sc. (Lond.); J. H. Whitwam, B.Sc. (Lond.); Miss M. Mason, B.Sc. (Dun.).
"	Huddersfield College	W. Lefévre, B.Sc. (Lond.); H.L. Watkinson, M.A. (Cantab.); F. Pickles, B.Sc. (Lond.); F. Lomax.
"	King James's Grammar School Almondbury	A. Hebron, B.Sc. (Lond.); J. T. Hopkins, B.Sc. (Lond.).
"	Royds Hall Secondary School	G. V. Smith, B.Sc. (Lond.), A.R.C.S.; F. Rice, B.Sc. (Lond.), A.I.C.
HULL	Boulevard Secondary School	J. P. Stewart, B.Sc. (Lond.), A.R.C.S.; Miss M. E. Oliver, B.Sc. (Liv.).
"	Craven Street Secondary School	W. C. Batty, B.Sc. (Lond.).
"	Grammar School	F. A. Drake, B.Sc. (Lond.); R. J. Porter, B.Sc. (Lond.); T. H. Colbert, B.Sc. (Leeds); E. Dickinson, B.Sc. (Lond.), A.R.C.S., A.I.C.
"	Newland High School	A. Williamson, B.Sc. (Lond.).
"	Hymers College	B. Burne, M.A. (Cantab.), Ph.D. (Heid.); C. B. S. Allott, M.A. (Cantab.), B.Sc.; W. J. Dennis, B.Sc. (Lond.).
HUNTINGDON	Grammar School	R. Hopkinson, B.Sc. (Lond.); H. Cresswell, B.Sc. (Lond.); E. L. Jones, A.R.C.S.
HURSTPIERPOINT	The College	H. B. I. Pocock, B.Sc. (Lond.); G. B. Morgan, B.A., B.Sc. (Oxon.); F. B. Lisle, M.A. (Oxon.).
HYDE (Cheshire)	County Secondary School	C. A. Blackwell, B.Sc. (Vict.), A.I.C.; D. T. Shaw, B.Sc. (Vict.); E. Martin, B.Sc. (Vict.).
ILFRACOMBE	County Secondary School	S. B. Tatton, B.Sc. (Lond.), A.I.C.; T. D. Stroud, B.Sc. (Wales).
ILKESTON	County Secondary School	F. C. Harrison, A.R.C.S.; Miss I. K. Warburton, B.Sc. (Lond.), A.I.C.
ILKLEY (Yorks.)	Grammar School	J. L. Barrett, M.A. (Cantab.); R. H. Nuttall, M.A. (Oxon.).
ILMINSTER	Grammar School	W. P. Martin, M.A. (Oxon.).
IPSWICH	Ipswich School	T. H. L. Glover, B.A. (Oxon.).
"	Municipal Secondary School (Boys')	A. Morris, M.Sc. (Manc.), A.I.C.; W. C. S. Stanger; E. S. J. Clark, B.Sc. (Lond.), A.I.C.
ISLEWORTH	County School	B. H. Walmsley, M.A., B.Sc. (St. Andrews); F. R. Parkes, B.Sc. (Wales); D. T. R. Hollis, B.Sc. (Birm.), A.I.C.

Jarrow	County Secondary School	H. Skinner, B.Sc. (Dun.).
Jersey	Victoria College	A. J. Robinson, B.A. (Lond.), M.Sc. (Manc.).
Keighley	Grammar School	H. Harper, B.Sc. (Lond.), A.R.C.S., A.I.C.; L. M. Stockdale, M.Sc.; A. G. Pickles.
”	Drake and Tonson's School (Girls)	Miss McLennan, B.Sc. (Aberd.).
Kelso	High School	A. M. Sefton, M.A. (Edin.).
Kendal	Kendal School	S. R. Roe-Thompson, B.A. (Oxon.), B.Sc. (Lond.); A. T. Boak, B.A. (Cantab.); E. S. Smith, M.Sc. (Leeds).
”	Stramongate School	James Midgeley, M.Sc. (Leeds), A.I.C.
Keswick	Keswick School	G. F. Emery, B.Sc. (Lond.; G. T. Mann, B.Sc. (Manc.).
Kettering	Grammar School	J. I. Scott, M.A. (Oxon.); G. R. Whitney, B.Sc. (Lond.); W. Richards, B.Sc. (Lond.), A.R.C.S., A.I.C.
Kibworth (Leics.)	Grammar School	W. W. Jones.
Kidderminster	Charles I. Grammar School	J. F. Williams, B.Sc. (Wales).
”	High School	N. Dunstan, B.Sc. (Lond.); Miss V. C. Raymond, B.A. (T.C.D.).
”	Queen Elizabeth's Grammar School, Hartlebury	J. W. L. Birkbeck, B.A. (Birm.).
Kimbolton (Hunts.)	Grammar School	W. Ingram, B.Sc. (Wales); T. H. Astill, B.Sc. (Lond.).
Kingsbridge	Grammar School	L. H. Taffs, B.A. (Cantab.).
Kingsland, S.O.	Lucton School	W. H. Thomas, B.Sc. (Wales).
King's Lynn	Edward VII School	S. H. Gudgin, M.A. (Cantab.).
Kingston-on-Thames	Grammar School	A. D. Robinson, B.A. (Cantab.); R. T. E. Allen, B.A. (Cantab.).
”	Tiffins' Boys' School	R. Atkin, M.A., B.Sc. (Oxon.); J. R. McPhie, B.Sc. (Dun.).
Kirkby Lonsdale (Westmorland)	Queen Elizabeth School	R. A. Bennison, M.Sc. (Dun.).
Kirkcaldy	High School	D. M. Stewart, M.A., B.Sc. (Edin.); G. Napier, B.Sc. (Aberd.); C.A. Mathers, B.Sc. (St. Andrews); C. S. Landale, M.A. (Edin.); D. Anderson, M.A., B.Sc. (St. Andrews); W. R. Menzies, B.Sc. (St. Andrews); J. M. Munro, M.A., B.Sc. (St. Andrews); Miss L. Patterson, M.A. (Edin.).

KIRKHAM (Lancs.)	Grammar School	G. Barton, M.Sc. (Liv.); B. Stevenson.
KIRTON (Lincs.)	Grammar School	H. E. Gard.
KNARESBOROUGH	King's James's Grammar School	A. S. Robinson, B.Sc. (Manc.), Headmaster; S. Norman, M.A. (Cantab.).
LAMPETER	Lampeter School	D. J. Thomas, B.Sc. (Lond.).
„	St. David's College School	T. G. Stephens, B.Sc. (Wales).
LANCASTER	Royal Grammar School	J. Bradshaw, M.Sc. (Manc.), A.I.C.; A. Huck, B.Sc.; C. H. Tuck.
LANCING COLLEGE (*see* SHOREHAM).		
LANGPORT (Som.)	Grammar School	C. W. Pinton, B.Sc.
LAUNCESTON	Dunheved College	E. Winterbottom, B.Sc. (Manc.), A.I.C.
„	Horwell Grammar School	H. E. Richardson, B.A., B.Sc. (Lond.); B. Willmott, B.Sc. (Bris.).
LEAMINGTON SPA (Royal)	Leamington College	A. W. Wellings, B.Sc. (Bris.).
LEATHERHEAD	St. John's School	E. Coddington, M.A.
LEEDS	Central High School	S. Parrish, B.Sc. (Lond.), A.R.C.S.; M. S. Fox, B.Sc. (Lond.); F. Crosland, B.Sc. (Leeds).
„	Cockburn High School	J. H. Naylor, M.Sc. (Manc.), F.I.C.; R. O. Arthur, B.Sc. (Wales), A.I.C.; R. A. Hobley, B.Sc.
„	Girls' High School, Headingley Hill	Miss E. L. Vincent, B.Sc. (Lond.).
„	Girls' Modern School	Miss J. A. Armes, B.Sc. (Leeds); Miss E. M. Gilham.
„	Leeds Grammar School	W. T. Tweed, B.A. (Cantab.); W. H. Crowe, D.Sc. (Q.U.B.), A.I.C.
„	Boys' Modern School	F. W. Hardy, B.Sc. (Lond.); C. A. Mountford, M.Sc. (Leeds); G. O. Yorke, M.A. (Cantab.).
„	West Leeds High School (Boys), Armley	T. Curzon, M.Sc. (Manc.), Headmaster; H. J. Ewart, B.Sc. (Birm.), A.I.C.
LEEK (Staffs.)	High School	T. C. Warrington, M.A. (Oxon.); A. D. Price, B.Sc. (Wales).
LEICESTER	Ald. Newton's Boys' School	E. Masters, B.Sc. (Lond.), A.R.C.S.; A. E. Goddard, M.Sc. (Birm.), A.I.C.; T. McGowan, B.Sc. (Dun.).
„	Ald. Newton's Girls' School, St. Martin's	Miss G. Foreman, B.Sc. (Lond.).
„	The City Boys' Secondary School	C. V. Smith, B.Sc. (Lond.).

LEICESTER ..	King Edward VII Grammar School, Coalville	A. Rigby, B.Sc. (Vict.); A. F. Williams, B.Sc. (Wales).
" ..	The Newarke Girls' School	Miss C. H. Spencer, B.Sc. (Lond.), A.R.C.S.; Miss M. Sinclair, M.A., B.Sc. (Aberd.); Miss W. E. Smith, B.Sc. (Birm.).
" ..	Wyggeston School	A. Pickles, M.Sc. (Lond.); H. M. Lacey, B.A. (Cantab.)
LEIGH (Lancs.)	Grammar School	W. E. Upton, M.A. (Cantab.); T. Evans, B.Sc. (Lond.); W. F. Millard, B.Sc. (Bris.).
" ..	Grammar School (Girls')	Miss I. Currie, M.A. (Dub.).
LEIGHTON BUZZARD	The Cedars School	F. Fairbrother, M.Sc. (Manc.), Headmaster; R. Jeffery, M.A. (Cantab.).
LEISTON (Suffolk)	Secondary School	J. A. Broadhead, M.A., LL.B. (T.C.D.), B.Sc. (Leeds and Vict.); H. H. Hirst, M.Sc. (Sheffield).
LERWICK (Shetland)	Anderson Educational Institute	E. Dixon, M.A., B.Sc. (Edin.); Miss L. Anderson, B.Sc. (Glas.).
LEYLAND (Lancs.)	Balshaw's Grammar School	H. J. Lomax, B.Sc., A.R.C.S.; J. Sutcliffe, B.Sc. (Manc.).
LEYTONSTONE (Essex)	County High School for Boys	W. E. Clarke, A.R.C.S., L.C.P.;
LICHFIELD ..	Grammar School	W. G. Ashmore, B.Sc. (Lond.).
LINCOLN ..	The City School ..	D. A. Campbell, B.Sc. (Lond.), M.Sc.Tech. (Manc.), A.I.C.; A.S. Holmes, B.Sc. (Lond.).
" ..	Lincoln School ..	G. A. H. Mence, B.Sc. (Lond.); H. N. Plant, M.A. (Oxon.).
" ..	South Park High School	Miss E. M. E. Gardner, M.Sc.(Liv.).
LINLITHGOW ..	Linlithgow Academy	J. F. Dawson, B.Sc.; A. H. Johnston, B.Sc.
LISKEARD (Cornwall)	Secondary School	H. R. Murry.
LIVERPOOL ..	Alsop High School for Boys, Walton	R. R. Finney, B.Sc. (Liv.), A.I.C.; T. F. Phillips, B.Sc.
" ..	Collegiate School	H. L. Heys, M.A. (Cantab.); E. Yerbury, M.A. (Cantab.); A. Machin, B.A. (Cantab.).
" ..	Holt Secondary School	Miss A. Keating, B.Sc. (N.U.I.).
" ..	Liverpool College	W. P. Dickinson, M.A. (Oxon.).
" ..	Oulton School, Clarence Street	W. H. Tomlinson, B.Sc. (Manc.); J. A. Davies, M.Sc. (Liv.), A.I.C.
" ..	Merchant Taylors' School, Crosby	W. Parry, B.A., B.Sc. (Lond.); H. M. Duncan, Ph.D. (Liv.), A.I.C.

LIVERPOOL	Notre-Dame Collegiate School, Everton Valley	Miss W. E. Walmsley, B.Sc.; Miss M. A. Cannell, B.Sc.
"	Quarry Bank High School for Boys, Mossley Hill	G. Hillier, B.Sc. (Lond.), M.Sc. (Leeds); R. H. Gibbs, B.Sc. (Lond.); H. H. F. Friend, B.A.
"	St. Edward's College	Rev. M. C. Wall, A.R.C.Sc.I.; Rev. D. F. Greenish.
"	St. Francis Xavier's School	W. Udall, M.Sc. (Vict.); L. Mollard.
"	Waterloo-with-Seaforth Secondary School	J. H. Thomas, B.Sc. (Vict.); A. Adamson, M.Sc. (Manc.); Miss L. Purcer, B.Sc. (Liv.).
LLANBERIS (Carnarvonshire)	County School	W. Glynne Jones, B.Sc. (Wales).
LLANDRINDOD WELLS	County School	E. W. Hughes, B.A. (Cantab.), M.Sc. (Wales), Headmaster; A. E. Wilson, M.Sc. (Leeds).
LLANELLY (Carmarthenshire)	Boys' County Intermediate School	S. Brown, B.Sc. (Vict.); D. Roderick, B.Sc. (Wales); H. Etherington, B.Sc. (Lond.); R. M. Beaman, B.Sc. (Wales), A.I.C.
LLANFAIR (Monty.)	Intermediate County School	A. J. R. Jacoby, B.Sc. (Lond.).
LLANGEFNI (Anglesey)	County Intermediate School	W. O. Hughes, B.Sc. (Wales); T. Clegg, A.R.C.S.; W. Owen, B.Sc. (Wales).
LOCHGILPHEAD (Argyll)	H.G. School	J. Mitchell, M.A., B.Sc. (Edin.).
LONDON	County School, Acton	M. Whittam, M.A. (Cantab.); E. H. Morgan, M.A. (Cantab.); W. I. Moore, D.Litt., B.Sc. (Lond.); N. Green, M.A. (Cantab.).
"	Addey and Stanhope School, New Cross, S.E.14	C. S. Hall, M.A. (Cantab.); A. McMillan, B.Sc. (Lond.).
"	Alleyn's School, Dulwich, S.E.21	M. G. G. Hyder, M.A., B.Sc. (Oxon.) W. H. E. Stevens, B.Sc. (Lond.); L. H. Jones, B.Sc. (Lond.).
"	Aske's Boys' School, Hatcham, S.E.14	E. S. Poole, M.Sc. (Lond.), F.I.C.; A. W. H. Field, B.Sc. (Lond.).
"	Battersea County School, S.W.11	———
"	Battersea Grammar School, S.W.11	H. R. Ellis, B.Sc. (Lond.); J. G. F. Druce, M.Sc. (Lond.), Ph.D. (Prague), F.I.C.; E. J. Weeks, M.Sc., Ph.D. (Lond.).
"	Bec School, Tooting, S.W.17.	W. J. Gale, B.Sc. (Lond.), A.I.C.

LONDON	Blackheath High School, S.E.3	Miss M. J. van der Stichele, B.Sc. (Lond.).
„	Brockley County School, S.E.4	W. H. Spikes, B.A. (Cantab.); E. S. Armstrong, B.Sc. (Dun.); W. C. J. Ottaway, B.Sc. (Lond.).
„	Brondesbury and Kilburn High School (Girls)	Miss J. G. Dunlop, M.A., B.Sc. (Edin.); Miss A. V. Crawley, B.Sc. (Lond.), A.I.C.; Miss M. J. Sellers, B.Sc. (Lond.); R. T. Shove, M.A. (Dub.); G. E. Nunn, B.Sc., (Lond.).
„	Cardinal Vaughan's School, Addison Road, W.14	M. A. Crowne, M.A., B.Eng. (N.U.I.).
„	Central Foundation Boys' School, Cowper Street, E.C.2.	C. R. Dow, M.Sc. (Dun.); H. A. Rust, B.Sc. (Lond.); E. C. W. Mason, B.A. (Cantab.).
„	Chiswick County (Boys') School	R. W. Dutton, B.Sc. (Lond.), A.I.C.
„	Christ's College, Finchley, N.	A. Farr, B.Sc. (Lond.); S. Allenby.
„	City of London School, Victoria Embankment, E.C.4.	G. H. J. Adlam, M.A., B.Sc. (Oxon.); F. P. Rudkins, M.A. (Cantab.); F. H. Dyball, M.A. (Cantab.).
„	Clapham County Secondary School, Broomwood Road, S.W.11.	Miss E. M. James, M.Sc. (Lond.).
„	Colfe's Grammar School, Lewisham, S.E.13	W. N. Morley, B.Sc. (Lond.); V. G. Ford, B.Sc. (Lond.), A.I.C.
„	Coopers Company School, Bow, E.3	F. W. Hodges, M.Sc. (Lond.); J. Martin, B.Sc. (Dun.); R. G. Shackel, M.A. (Cantab.); R. J. Escreet.
„	County Secondary (Boys) School, Edmonton, N.9	E. J. Baker, B.Sc. (Lond.); T. B. Child, B.Sc. (Lond.).
„	Dulwich College	F. M. Oldham, M.A. (Cantab.); J. J. Bauer, B.Sc. (Lond.); W. C. Crowther, B.A. (Cantab.); R. V. Fenn, M.A. (Cantab.); A. W. Anscombe, B.Sc. (Lond.); F. W. King, B.Sc. (Lond.); F. H. C. Butler, M.A. (Cantab.); H. E. Rubie, B.A. (Oxon.).
„	Dulwich High School, S.E.14	Miss M. Williams, M.Sc. (Lond.), A.I.C.; Miss A. Hepburn, B.Sc. (Lond.); Miss E. H. Riley, B.Sc. (Lond.).
„	Ealing County School for Boys, W.5	A. S. Kirbyshire, M.A. (Cantab.) A. Brooker, B.Sc. (Lond.).

LONDON ..	East Sheen County School (Boys'), S.W.14	T. E. Green, M.A., B.Sc. (Oxon.).
"	Eltham College, S.E.9	E. H. Cohen, B.A. (Lond.).
"	Eltham Hill Secondary School	Miss M. Davies, M.Sc. (Lond.); Miss S. Kelsey, B.Sc. (Lond.); Miss E. M. Ogden, B.Sc. (Lond.).
"	Emanuel School, Wandsworth Common, S.W.11	J. H. Allworthy, B.Sc. (Lond.); W. A. Davies, B.A. (Oxon.); C. Everitt, M.A. (Oxon.); G. H. Wyatt, B.Sc. (Lond.), A.R.C.S.
"	Finchley County School, Finchley, N.12	T. A. Quilliam, B.Sc. (Lond.).
"	Forest School, Walthamstow, E.17	N. W. Vere Jones, B.Sc. (Lond.).
"	George Green's School, Poplar, E.14	J. K. King, M.A. (Cantab.); W. Cammack, B.Sc. (Lond.), A.I.C.
"	Haberdashers' Aske's Hampstead School, Westbere Road, N.W.2	J. B. Paterson, B.Sc. (Lond.), A.I.C.; H. G. Payne, B.A. (Cantab.); W. H. Crossman, B.Sc. (Lond.); L. Rawnsley, M.A. (Cantab.); J. F. Cooper, M.A. (Oxon.); J. G. Knight, B.Sc. (Lond.).
"	Haberdashers' Aske's Girls' School, Acton, W.3.	Miss W. M. Collar, M.A. (Oxon.), Miss C. J. Llewellyn, B.Sc. (Wales).
"	Hackney Downs School, Clapton, E.5	C. F. Gunther, B.A., B.Sc. (Lond.); J. F. Tucker, B.Sc. (Lond.); A. Johnstone, B.Sc. (Lond.); G. M. Coombe, B.Sc. (Lond.); L. C. Dice, B.Sc. (Wales).
"	Hendon County School, Hendon, N.W.4	J. W. Walters, B.Sc. (Lond.)
"	Henry Thornton School, Clapham	J. Hart-Smith, A.R.C.S., F.I.C.
"	Highbury Hill High School, N.5	Miss E. M. Stokes, B.Sc. (Lond.); Miss M. Rattray, Nat. Sci. Trip. (Cantab.).
"	Highgate School	A. F. Izard, B.A. (Cantab.); A. C. Kaye, B.A. (Cantab.); S. P. Kipping, B.A. (Lond.), A.I.C.; O. W. Dumaresq, M.A. (Cantab.), B.Sc. (Lond.); H. R. Stevens, B.A., Ph.D. (Cantab.); H. F. R. Miller, B.A. (Oxon.); D. L. Gough, B.A. (Cantab.); A. E. Evans, B.A. (Cantab.).
"	Holborn Estate Grammar School, Ducane Road, W.12.	W. H. Kipps, B.Sc. (Lond.), A.I.C.

LONDON.. ..	Holloway School, N.7	D. A. Brown, B.Sc. (Lond.); E. T Griffiths, B.A. (Lond.), L.C.P.; A. R. H. Martin, B.A. (Cantab.).
"	Hornsey County School, N.4	J. Pollitt, B.A. (N.U.I.), M.Sc. (Lond.); W. S. Fieldhouse, B.Sc.
"	Hornsey High School, (Girls') N.8	Miss O. Workman, M.Sc. (Lond.), D.I.C., A.I.C.
"	James Allen's Girls' School, Dulwich	Miss H. F. Church, M.A. (Dub.).
"	Kensington High School, W.8	Miss F. M. Wood, B.Sc. (Birm.), Ph.D. (Lond.), F.I.C.
"	Kilburn Grammar School, N.W.6	J. Ellison, M.Sc. (Lond.).
"	King's College School, Wimbledon Common, S.W.19	F. Carrodus, A.R.C.S.; G. D. N. Wyatt, Ph.D. (Freiburg); W. E. Ferris, B.A. (Cantab.); W. E. Barker, B.A. (Cantab.).
"	Kingsbury County School, N.W.9	G. Rush, M.Sc. (Sheffield).
"	Latymer Secondary School, Edmonton, N.9	E. G. Balls, B.Sc. (Lond.), A.I.C.; W. V. Lloyd, B.Sc. (Lond.), A.I.C.; W. J. Parrish, B.Sc. (Lond.), A.I.C.; P. G. Blackwell, B.Sc. (Lond.), A.I.C.
"	Latymer Upper School, Hammersmith, W.6	G. J. Francis, B.A., B.Sc. (Lond.); G. Fowles, M.Sc. (Lond.), A.I.C.; E. D. Goddard, B.Sc. (Lond.), F.I.C.; W. Wheatley, M.A. (Oxon.), A.I.C.
"	Owen's School, Islington, E.C.1	G. H. Armitage, B.Sc. (Lond. and Vict.); G. W. Barker, B.A. (Oxon.).
"	Manor House School, Clapham Common, S.W.4	J. W. Dudderidge, B.Sc. (Lond.).
"	Mary Datchelar School, S.E.5	Miss M. A. V. Fairlie, B.Sc. (Lond.); Miss E. Hancock, B.Sc. (Lond.).
"	Mercers' School, Barnard's Inn, Holborn, E.C.1	G. H. Heath, M.A. (Cantab.), B.Sc. (Lond.).
"	Merchant Taylors' School, Charterhouse Sq., E.C.1	G. N. Pingriff, M.A. (Cantab.), B.Sc. (Lond.); P. B. Simpson, M.A. (Cantab.); S. W. Richards, B.Sc. (Lond.), A.I.C.; L. E. S. Ward, B.A. (Cantab.); K. R. J. Saxon, M.A. (Cantab.); A. L. Robotham, B.A. (Cantab.).
"	Mill Hill School, N.W.7	W. H. Brown, M.A. (Oxon.); W. P. Phillips, M.A. (Oxon.).
"	Minchenden School, Old Southgate, N.14	W. O. Jones, M.Sc. (Wales), A.I.C.; W. C. Walker, M.Sc. (Lond.), A.K.C., A.I.C.; Miss R. M. Utting, B.Sc. (Lond.).
"	Notre-Dame High School, S.W.8	Mrs. A. C. Shepherd, B.Sc. (Lond.).

London ..	Notting Hill High School for Girls, W.11.	Miss I. M. Oakden, M.A. (T.C.D.), (Cantab.); Miss J. Oman, B.A. (Cantab.).
”	Parmiter's School Victoria Park, E.	S. H. Woolhouse, M.A., B.Sc.; A. C. Bodey, B.Sc. (Lond.), A.I.C.
”	Raine's Foundation School, E.1	H. S. Browning, B.Sc. (Lond.); H. Wilkins, M.Sc. (Lond.); Miss E. Pannett, B.Sc. (Lond.).
”	Roan School for Boys, Greenwich, S.E.10	W. J. Potter, M.A. (Cantab.); W. W. Poyser; T. R. White, M.A. (Oxon.); T. Holt, B.Sc. (Manc.); L. J. Berry, B.Sc. (Lond.).
”	Roan School for Girls, Greenwich, S.E.10	Miss A. Williams, B.Sc.
”	Rutlish School, Merton, S.W.19	H. E. Leader, M.A. (Cantab.).
”	St. Aloysius Convent School, N.W.1.	Miss J. Sharp, B.Sc. (Lond.).
”	St. Dunstan's College, Catford Bridge, S.E.6	W. R. Anderson, M.Sc. (Manc.); F. C. Bentley; L. M. Benenstock, B.Sc. (Lond.); J. Harris, M.Sc. (Lond.), A.I.C.
”	St. Ignatius College, South Tottenham, N.15	J. Ward, B.Sc. (Liv.).
”	St. John's College Brixton, S.W.9	A. W. Franks, B.A. (Oxon.).
”	St. Marylebone Grammar School, N.W.1	T. J. S. Rowland, M.A. (Cantab.).
”	St. Olave's and St. Saviour's Grammar School, Tower Bridge, S.E.1	F. R. Hora, B.A., M.Sc. (Lond.), A.R.C.S.; H. H. Grainger, M.Se. (Lond.), A.I.C.; A. J. Sinclair. B.Sc. (Lond.).
”	St. Paul's School, West Kensington, W.14	L. N. Brown, M.A. (Oxon.), A.R.C.S., A.I.C.; E. T. Lancaster, M.A. (Cantab.); C. N. Langham, M.A. (Cantab.); H. D. Sirain, B.A. (Oxon.) ; V. O. J. Hodgson, B.Sc. (Lond.).
”	St. Saviour's and St. Olave's Grammar School for Girls, New Kent Road, S.E.1	Miss A. E. A. Baker, B.Sc. (Lond.); Miss M. Foster, B.Sc. (Lond.).
”	Sir George Monoux Grammar School, Walthamstow, E.17	J. S. Arthur, B.Sc. (Lond.), O.B.E., A.I.C.;L. F. R. Simmonds, B.Sc. (Lond.).
”	Sir Walter St. John's School, Battersea, S.W.11	W. L. Edlin, M.A. (Oxon.); W. J. Smith, B.Sc. (Lond.).

LONDON ..	Sloane School, Chelsea, S.W.10	C. W. Hale, A.K.C.; G. H. Plymen, Ph.D. (Lond.); A. J. White, M.A., M.Sc. (Lond.).
„	Southgate County School, Palmer's Green, N.15	W. Auger, B.Sc. (Lond.), A.R.C.S., A.I.C.; Miss D. E. Barham, B.Sc. (Lond.).
„	South Hampstead High School, 3, Maresfield Gardens, N.W.3	Miss M. Langhorne, B.Sc. (Lond.); Miss M. M. G. Mayson, B.Sc. (Lond.); Mrs. Moore, B.Sc. (Leeds).
„	Stationers' Company's School, Hornsey, N.8	J. Huck, O.B.E., M.A. (Cantab.), Headmaster; W. A. T. Nash, B.Sc. (Lond.), A.R.C.S.; F. E. B. Rost, M.A., B.Sc. (Lond.); D. F. Ryan, B.Sc. (Lond.), L.R.A.M.
„	The Strand School, Brixton, S.W.2	W. H. Hewitt, B.A., B.Sc. (Lond.), A.R.C.S.; S. T. E. Dark, B.Sc. (Lond.); J. W. Yates, B.Sc. (Lond.), A.R.C.S.; J. D. Pack, B.Sc. (Lond.); H. Toms, M.Sc., Ph.D. (Lond.), F.I.C.
„	Streatham Hill High School for Girls	Miss Dalston, B.Sc. (Lond.).
„	Sydenham County Secondary School, S.E.26	Miss S. Cook, B.Sc. (Lond.); Miss H. E. M. Webb, B.Sc. (Lond.).
„	Sydenham High School, S.E.26	Miss B. Rae, M.A., B.Sc. (Aberd.); K. F. Wade, Nat. Sci. Trip. (Cantab.).
„	Archbishop Tenison's School, Leicester Square, W.C.2	W. H. Ratcliffe, B.Sc.
„	Tollington School, Muswell Hill, N.10	E. Shepherd, B.Sc. (Lond.), L.C.P.; K. H. Shelton; E. Huxley, B.Sc. Agric. (Dun.).
„	Tottenham County School, N.15	E. Ware, B.Sc. (Wales); H. J. Kelly, B.Sc. (Lond.); G. H. Wright, B.Sc. (Lond.).
„	Tottenham Grammar School	H. H. Hughes, B.Sc. (Lond.); H. T. B. Bentley, B.Sc. (Lond.); S. W. Horne, B.Sc. (Lond.).
„	University College School, Hampstead, N.W.3	F. L. Grant, M.A. (Glas.); E. G. Oliver, M.A. (Cantab.); U. H. Stanley, B.Sc. (Lond.); F. A. Hills, M.Sc. (Lond.); G. R. Jenkins, M.Sc. (Leeds); C. J. Wallis, B.A. (Cantab.).
„	Wandsworth Tech. Inst. Secondary School	Alfred Greeves, B.Sc. (Lond.), A.R.C.S., F.I.C.; H. J. Powell, B.Sc. (Lond.).
„	West Ham Secondary School, Stratford, E.15	F. W. Hart, B.Sc. (Lond.); J. Rigby, M.Sc. (Manc.), A.I.C.

LONDON ..	West Ham Grammar School, Forest Gate, E.7	A. J. Burn.
„	Westminster School, S.W.1	W. J. N. Burch, Ph.D. (Lond.), A.I.C.; L. H. Burd, M.A., B.Sc.; F. O. M. Earp, B.A. (Cantab.).
„	Westminster City School, S.W.1	R. E. Machin, B.Sc. (Lond.); E. B. Fisher, B.Sc. (Lond.), A.R.S.M.; L. M. Parsons, D.Sc. (Lond.); W. C. J. Ward, B.Sc. (Lond.); F. W. Jeavons, B.Sc. (Lond.), A.R.C.S.
„	Whitechapel Foundation School	W. Warren, B.Sc. (Lond.).
„	William Ellis School, Gospel Oak, N.W.5	E. R. Martin, B.Sc. (Lond.); C. F. Hutton, B.A., B.Sc. (Lond.); T. D. Corker, B.Sc. (Lond.).
„	Wilson's Grammar School, S.E.5	A. M. Weaver, B.Sc. (Lond.); S. J. Brocklebank, B.Sc.(Lond.); W. M. Dash, B.A. (Oxon.).
„	Glendale County School, Wood Green, N.22	W. H. White, B.Sc. (Vict. and Leeds).
„	Woolwich County School, S.E.18	S. Platt, B.Sc. (Manc.), A.I.C.; C. C. Holland, B.Sc. (Lond.).
LONG EATON ..	County Secondary School	Ian Aucken, B.Sc. (Lond.).
LORETTO SCHOOL (*see* MUSSELBURGH).		
LOUGHBOROUGH	Grammar School	F. H. Gray, B.Sc. (Lond.) A.R.C.S., A.I.C.; F. G. Srawley, M.Sc. (Birm.); H. L. Murray, B.Sc.
„	Junior College ..	A. T. Eggington, B.Sc. (Lond.), A.R.C.S., A.I.C., Headmaster; E. Kaye, B.Sc. (Sheffield).
LOUGHTON (Essex)	Loughton School	L. W. Bone.
LOUTH	Edward VI Grammar School	W. A. Greaves, B.Sc. (Lond.).
LOWESTOFT ..	Secondary School	C. T. Woosnam, M.A. (Cantab.).
LUDLOW (Salop)	Grammar School	H. S. Breakspear, M.A. (Oxon.).
LUTON	Modern School for Boys	G. R. Howard, M.Sc. (Sheffield); C. J. Godfrey, B.Sc. (Lond.).
LYDNEY (Glos.)	Secondary School	S. Taylor, B.Sc. (Leeds).
LYME REGIS ..	Grammar School	E. D. Colenutt, B.Sc. (Lond.).
LYTHAM ..	Edward VII School	W. R. Fielding, M.A., M.Sc. (Manc.).
MACCLESFIELD	The Grammar School	R. B. Rawsthorn, M.Sc. (Manc.), A.I.C.; J. W. E. Ransley, B.Sc. (Lond.).
MAESTEG ..	Secondary School	G. C. Gibson, M.Sc. (Wales), A.I.C.
MAIDENHEAD ..	County Boys' School	F. C. Stead, B.Sc.

MAIDSTONE ..	Grammar School	Rev. S. Richards, M.A. (Cantab.).
MALTON (Yorks.)	Grammar School	T. A. Williams, M.Sc. (Manc.).
MALVERN ..	Malvern College	M. C. Nokes, B.A., B.Sc. (Oxon.); T. H. Savory, M.A. (Cantab.); J. Salter, B.A. (Cantab.); F. Hare, M.A. (Cantab.).
MANCHESTER ..	Central High School	J. Bridge, M.A. (Cantab.); R. S. Pollard, M.Sc. (Vict.); A. W. Smith, B.Sc. (Bris.).
„ ..	Cheadle Hulme School	T. T. R. Lockhart, M.A., B.Sc. (Edin.), A.I.C., Headmaster; R. Hum, B.Sc. (Lond.).
„ ..	Fairfield High School (Girls')	Miss D. Evans, B.Sc. (Lond.), A.I.C.; Miss M. E. Dellow, B.Sc. (Lond.).
„ ..	Grammar School	H. S. Newbould, M.A. (Cantab.); R. J. Hughes, B.Sc. (Wales), A.I.C.; C. P. Wilson, A.M.C.T.; H. A. Field, B.A. (Cantab.); R. Plackett, B.A. (Oxon.).
„ ..	Hulme Grammar School	F. Adams, M.A. (Cantab.); B. Brockbank, M.A. (Cantab.); J. W. D. McConnell, M.Sc. (Dun.); F. S. Harris, B.A. (Cantab.).
„ ..	Notre-Dame High School, Cheetham Hill	Miss M. L. O'Neill, B.Sc. (Liv.).
„ ..	South Manchester School	J. Hunter, B.Sc. (Lond.), A.I.C.
„ ..	Stand Grammar School	G. H. Beecham, B.Sc. (Lond.); Miss E. E. Goddard, B.Sc. (Leeds); D. A. Law, B.Sc. (Manc.); G. E. Follows, M.Sc. (Liv.), A.I.C.
„ ..	St. Bede's College	J. H. Macmillan, B.Sc.
„ ..	Stretford Grammar School	T. Booth, M.Sc. (Manc.), A.I.C.
„ ..	Withington Girls' School, Fallowfield	Miss W. M. Casswell, B.Sc. (Lond.); Miss V. K. Wilson, M.Sc. (Manc.).
„ ..	Xaverian College	J. F. Scott, B.A., B.Sc. (Lond.); I. Butler, B.Sc. (Vict.); I. J. Eden, B.Sc. (Liv.).
MANSFIELD (Notts.)	The Brunt's School	C. E. Stacey, B.A., B.Sc. (Lond.); M. Bartle.
MARCH (Cambs.)	Grammar School	C. H. Budd, B.Sc. (Lond.).
MARKET BOSWORTH	Grammar School	G. Nicholl, M.A. (Dub.).
MARKET DRAYTON	County Grammar School (Boys)	J. H. Helm, B.Sc. (Manc.).
MARKET HARBOROUGH	County Grammar School	J. B. Elwell, B.Sc. (Birm.); R. H. Dilworth, B.A. (Oxon.).

Marlborough (Wilts.)	Marlborough College	W. A. Knight, M.A., D.Sc. (Cantab.); Rev. W. B. Smith, B.Sc. (Lond.); L. T. Bridell, B.A. (Cantab.); A. L. Cooper, M.A. (Cantab.); L. G. Peirson, B.A. (Cantab.), A.I.C.; A. G. Lowndes, M.A. (Cantab.).
„ ..	Grammar School	A. A. Golding, B.Sc. (Lond.).
Marlow ..	Sir W. Borlase's School	Rev. A. J. Skinner, B.A. (Lond.).
Melton Mowbray	King Edward VII County School	W. Smith, B.Sc. (Lond.), A.I.C.
Merchiston Castle (*see* Edinburgh).		
Merthyr Tydfil	Intermediate School	R. H. Pugh, B.Sc. (Wales); D. W. Jones, B.Sc. (Wales); A. J. Saunders, B.Sc. (Wales).
Mexborough ..	Secondary School	G. W. Way, B.Sc. (Lond.); G. McIver, M.Sc. (Sheffield); W. Osborn, B.Sc. (Sheffield); G. T. Milnthorpe, B.Sc. (Lond.); M. Henderson, M.Sc. (Dun.).
Middlesbrough	High School for Boys	H. Bailey, B.A. (Dub.), M.Sc. (Manc.); T. Gough, M.Sc. (Vict.); F. C. Brown, B.Sc. (Lond.); J. T. Hewson, B.Sc. (Dun.); R. S. Ashford, M.Sc. (Birm.); A. Mathias.
„ ..	St. Mary's College	G. P. Dee, M.Sc. (Dun.), A.I.C.
Midhurst (Sussex)	Grammar School	H. J. D. Cossins; C. A. J. Stuck, B.Sc. (Lond.).
Midsomer Norton (Som.)	County School	G. P. Furneaux, M.A. (Oxon.); C. E. Clarkson, B.Sc. (Manc.).
Milford Haven	The County School	H. Vanstine, B.Sc.
Mill Hill School (*see* London).		
Milnthorpe ..	Heversham School	R. Chatterton, B.Sc. (Manc.).
Mirfield (Yorks.)	Grammar School	W. Hepworth, B.Sc. (Leeds).
Monmouth ..	Grammar School	J. E. Briggs, M.A. (Cantab.); C. H. Pearson, M.A. (Oxon.); A. R. B. Simpson, B.A. (Cantab.), B.Sc. (Edin.).
„ ..	Monmouth School	E. W. Siddans, M.A. (Cantab.); E. A. Willy, B.A. (Cantab.); C. H. Pearson, M.A. (Oxon.).
Morley (Yorks.)	Grammar School	J. H. Haigh, B.Sc. (Leeds); Miss N. H. Kenyon, B.Sc. (Liv.), A.I.C.
Morpeth ..	Grammar School	E. H. Taylor, M.A. (Cantab.); C. R. Williams, B.A. (Cantab.); F. Tye, B.Sc. (Lond.).
Motherwell (Lanark)	Dalziel High School	A. M. Drummond, Ph.D. (Glas.), A.I.C.

MUSSELBURGH	Loretto School	P. L. J. Smith, M.A. (Oxon.), F.I.C.; N. K. Barber, M.A., LL.B. (Cantab.); S. J. Dale, B.A. (Oxon.).
NANTWICH AND ACTON	Grammar School	C. H. Bailey, B.Sc. (Lond.).
NARBERTH	The County School	T. R. Francis, B.Sc.
NEATH	Intermediate School	W. G. Tonner, B.Sc.; B. Perrott; Miss M. Martyn, B.Sc.
NELSON (Lancs.)	Municipal Secondary School	R. B. Duerden, B.Sc. (Lond.), A.I.C.
NEWARK-ON-TRENT	Magnus Grammar School	H. Buckley, B.Sc. (Lond.); C. R. Williams, M.A. (Cantab.), B.Sc. (Wales), A.I.C.
NEWBURY	Grammar School, South End Lodge	J. P. Turner, M.A. (Cantab.).
NEWCASTLE-UPON-TYNE	Royal Grammar School, Jesmond	E. R. Thomas, M.A. (Cantab.), M.Sc. (Wales); A. R. Laws, B.Sc. (Lond.); E. J. Williams, B.Sc. (Wales); L. T. Taylor, M.Sc. (Dun.); G. S. Dean, B.Sc. (Leeds).
„	Church High School	Miss M. L. Macgregor, B.Sc. (Edin.).
„	Dame Allan's School for Boys	E. I. Lawson, B.Sc. (Leeds).
„	Rutherford College Boys' School	W. Carr, B.Sc. (Manc.); E. E. Aynsley, M.Sc. (Dun.).
	Rutherford College Girls' School	Miss E. F. Conway, B.A. (N.U.I.); Miss K. M. Carrick, B.Sc. (Dun.).
„	St. Cuthbert's Grammar School	M. Holohan, B.Sc.; J. Jackson, B.Sc.
NEWCASTLE-UNDER-LYME (Staffs.)	High School	S. G. Smith, B.A. (Cantab.); P. E. Dixon, M.A. (Oxon.).
„	Orme Boys' School	C. Melling, B.Sc. (Manc.); T. M. Cobern.
NEWPORT (Essex)	Grammar School	Rev. F. J. Wyeth, M.A. (Cantab.), D.Sc. (Lond.), B.D. (Dun.); F. A. Walker, B.Sc. (Wales); W. J. Heasman, B.Sc. (Lond.), A.I.C.
NEWPORT (Mon.)	High School for Boys	C. K. Barnes, M.Sc. (Liv.), F.I.C.; D. J. Griffiths, B.Sc. (Wales).
„	High School for Girls	Miss M. E. Gibson, M.A., B.Sc. (St. Andrews).
„	Secondary School, Pontllanfraith	C. B. Rowlands, M.Sc. (Wales).
NEWPORT (Salop)	Adams' Grammar School	A. C. Robinson, M.Sc. (Dun.).
NEWQUAY (Cornwall)	County School	N. Stringer, B.Sc. (Liv.), L.C.P.; H. W. Chegwidden.

NEWTON ABBOT	County Secondary School	J. Hembrough, A.R.C.S., F.I.C., Principal; H. Hawker, B.Sc. (Wales).
„	Newton College	G. F. D. Pearson, M.A. (Cantab.).
NEWTOWN (Montgomery)	County School for Boys	W. Dean Jones, B.Sc. (Wales).
NORMANTON (Yorks.)	Grammar School	H. Gott, M.Sc. (Leeds); I. Parker, B.Sc. (Leeds).
NORTHAMPTON	Northampton Town and County School	L. V. Wright, M.A. (Cantab.), F.I.C.; N. A. Creeth, M.Sc. (Manc.).
NORTH SHIELDS	Municipal High School	G. Adamson, B.Sc. (Manc.); C. Hughes, B.Sc. (Dun.).
NORTH WALSHAM	Paston Grammar School	S. Hare.
NORTHWICH	Sir John Deane's Grammar School	T. A. Muir, B.Sc. (Liv.).
NORWICH	City of Norwich School	J. E. Sainty, B.Sc. (Lond.); P. J. Fewings, M.A. (Cantab.); A. G. Coe, B.Sc. (Wales).
NOTTINGHAM	High School	G. F. Hood, M.A. (Oxon.), B.Sc. (Lond.); J. S. Firth, B.Sc. (Lond.).
„	High School (Girls)	Miss G. E. Ready, B.Sc. (Lond.).
„	High Pavement School	R. Crossland, B.Sc. (Lond.); K. S. S. Train, A.R.C.S.
NUNEATON	Edward VI School	N. Taylor, B.Sc. (Lond. and Manc.).
OAKHAM	Oakham School	H. Anderson, B.A. (Cantab.); T. E. W. Browne, M.Sc.Agric. (Wales), A.I.C.
ODIHAM (Hants.)	Grammar School	E. J. Stevens, B.A. (Lond.); G. Holmes.
OKEHAMPTON (Devon)	Grammar School	A. Ferriday, B.Sc. (Liv.).
OLDBURY	County Secondary School	G. H. Crisp, M.A. (Oxon.), B.Sc. (Lond.).
OLDHAM	Hulme Grammar School	L. F. Potter, M.A. (Oxon.), Ph.D. (Heidelberg); E. S. Jones, B.Sc. (Wales).
„	Secondary School	Miss M. Moore, B.Sc.
ORRELL (Wigan)	Upholland Grammar School	A. Brooks, B.Sc. (Lond.).
OSSETT (Yorks.)	Grammar School	C. H. Akehurst, B.Sc. (Lond.), L.C.P., A.I.C.
OSWESTRY (Salop.)	High School for Boys	W. H. C. Jemmett, M.A. (Cantab.); G. Jones, B.Sc. (Wales).

OTLEY (Yorks.)	Prince Henry's Grammar School	D. Nealy, B.Sc. (Liv.).
OTTERY ST. MARY (Devon)	The King's School	E. C. Radway, B.Sc. (Lond.).
OUNDLE (Northants.)	Oundle School	H. O. Hale, M.A. (Cantab.); W. H. Ault, B.Sc. (Lond.); H. C. Palmer, M.A. (Cantab.); I. Hepburn, B.A. (Oxon.).
OXFORD	St. Edward's School	A. Tilly, B.Sc. (Lond.); A. F. Yorke, B.A., B.Sc. (Oxon.); A. W. Guest, M.A. (Oxon.); J. M. D. Gauntlett, M.Sc. (Lond.), A.I.C.
"	Boys' High School	H. Jacques, B.Sc. (Lond.); H. Haynes.
"	Magdalen College School	J. J. Manley, M.A. (Oxon.).
"	Municipal Secondary School for Boys	Capt. J. S. Hill, B.A. (Oxon.), B.Sc. (Manc.).
PAISLEY	Grammar School	C. A. Scott, B.Sc. (Glas.); A. Russell, B.Sc. (Glas.), J. A. McAulay.
"	John Neilson Institution	R. M. H. Currie, B.Sc. (Glas.), A.I.C.
PARKSTONE (Dorset)	Parkstone School	James Wood, B.Sc. (Lond.).
PEMBROKE DOCK	The County School	J. H. Garnett, M.Sc. (Manc.).
PENARTH	Boys' County School	A. Bevan, B.Sc. (Wales), A.R.C.S., A.I.C.
PENGAM (Cardiff)	Lewis' School	A. Wright, B.Sc. (Lond.), A.K.C.; D. Morris, B.Sc. (Wales); C. M. Harris, B.A. (Wales).
PENISTONE (Yorks.)	Grammar School	W. R. Kane, B.Sc. (Lond.).
PENRITH (Cumb.)	Queen Elizabeth Grammar School	R. Hargreaves, B.A. (Cantab.).
PENZANCE	County School	A. C. Davies, B.Sc. (Wales); D. M. Jones, B.Sc. (Wales).
PERTH	Caledonian School	D. J. S. Sutherland, M.A., B.Sc., (St. Andrews), A.I.C.
PETERBOROUGH	Deacon's School	J. H. Davies, B.Sc. (Wales), Ph.D. (Leipzig), Headmaster; C. Tyler, B.Sc. (Lond.).
"	Hunts. County Secondary School	H. E. Rayner, B.Sc. (Leeds); J. Scotney, B.Sc. (Lond.)
"	King's School	W. F. F. Shearcroft, B.Sc. (Lond.), A.I.C.

Petersfield (Hants.)	Bedales School	C. G. Vernon, M.A. (Cantab.), B.Sc. (Lond.).
„	Churcher's College	F. Billington, B.A. (Cantab.).
Plymouth	The College	C. W. Osmund, B.Sc. (Dun.); J. T. Dufton, B.A. (Cantab.); E. J. L. Holman, M.Sc. (Birm.).
„	Corporation Grammar School	G. Ord, B.Sc. (Dun.).
„	Stoke Damerel Secondary School	M. Scouller, B.Sc. (Glas.).
„	Sutton Secondary School	H. U. Rogers, B.Sc. (Lond.), A.R.C.S.
Plympton (Devon)	Grammar School	J. A. Jenkinson, B.Sc. (Liv.), A.I.C.
Pocklington (Yorks.)	Pocklington School	C. S. Kipping, M.A. (Cantab.).
Pontefract	King's School	A. Done, B.Sc. (Birm.), A.I.C. A. E. Lovett, B.Sc. (Lond.).
Pontycymer (Glam.)	Garw Secondary School	H. Garfield, B.Sc. (Wales).
Pontypool	W. Monmouthshire School	C. W. Watson, B.Sc. (Dun.).
„	County School for Girls	Miss M. K. Turner, M.Sc. (Lond.).
Pontypridd (Glam.)	Boys' Intermediate School	T. Lovett, M.Sc. (Wales), A.I.C.
Poole	Grammar School	H. G. E. Davis, M.A. (Cantab.); D. J. Gould, B.Sc. (Bris.); F. Whitelock, B.Sc. (Lond.).
Port Glasgow	High School	R. Hutton, B.Sc. (Glas.). A.R.T.C., A.I.C.
Port Talbot	County School	R. L. D. Ellis, B.Sc. (Wales), A.I.C.
„	Secondary School	G. J. Rees, B.Sc. (Wales), A.I.C.
Portmadoc	County School	W. J. Hughes, B.Sc. (Wales).
Portsmouth	Grammar School	H. S. Hawkey, B.A., B.Sc. (Lond.); F. H. Baxter, M.A. (Cantab.); N.E. Lee, B.Sc. (Lond.).
„	Boys' Northern Secondary School	C. W. W. Beedem, B.Sc. (Lond.), Headmaster; G. W. Crouch, B.Sc. (Lond.); G. W. L. E. Clark, B.Sc. (Lond.), A.R.C.S., A.I.C.; H. Walker, B.Sc. (Lond.); H. G. Dane, M.Sc. (Sheff.), A.I.C.
„	Boys' Southern Secondary School, Victoria Road, N., Southsea	G. Griffiths, B.Sc. (Lond.); W. Shackleton, B.Sc. (Manc.); D. T. Winter, B.Sc. (Lond.); J. H. Waite, B.Sc. (Leeds and Vict.); J. H. Ogden.
„	High School	Miss M. E. Charlesworth, Nat. Sci. Trip. (Cantab.).
Poulton-le-Fylde (Lancs.)	Baines's Grammar School	W. W. Waddington, B.Sc. (Manc.); E. L. Mills, B.Sc. (Manc.).
Prescot	Grammar School	J. J. Robinson, B.Sc. (Lond.); G. Drewry, B.Sc. (Birm.).

PRESTON ..	Catholic College	W. E. Allen, B.Sc. (Manc.), L.C.P., A.I.C.; C. Kinleside, B.Sc. (Dun.).
” ..	Hutton Grammar School	W. D. Morgan, B.Sc. (Wales).
” ..	Kirkham Grammar School	G. Barton, M.Sc. (Liv.); B. Stevenson.
” ..	Park Secondary School for Girls	Miss M. S. Wallace, B.A. (Cantab.); Miss D. E. Knapman, B.Sc. (Lond.).
PRESTONPANS ..	Preston Lodge School	G. H. Smith, M.A., B.Sc. (Edin.); W. M. C. Nicolson, B.Sc. (Edin.).
PUDSEY ..	Grammar School	F. R. Penn, B.Sc. (Lond.), A.R.C.S., Principal.
PURLEY (Surrey)	County School	B. E. Mitchell, M.A. (Cantab.); G. C. Bachelor, B.Sc. (Lond.); E. C. Hill, B.Sc. (Lond.).
QUORN ..	Rawlins Grammar School	A. Lucas, B.Sc. (Birm.); W. van O. Bruyn, B.Sc. (Liv.).
RADLEY COLLEGE (*see* ABINGDON).		
RAMSEY ..	Grammar School	F. T. Allen, M.A., B.Sc. (R.U.I.), M.Sc. (Dun.), A.I.C.; H. F. Watson, B.Sc. (Dun.).
RAMSGATE ..	Chatham House School	E. Guy, M.Sc. (Leeds); E. J. Nuttall, B.Sc. (Vict.); E. P. Pester, B.Sc. (Lond.); H. L. Langdon, B.Sc. (Lond.).
” ..	St. Lawrence College	C. E. Baldwin, M.A. (Oxon.), A.I.C.; S. W. Hutcherson, B.A. (Cantab.); A. W. V. Mace, B.Sc. (Lond.).
READING ..	The Abbey School	Miss G. A. Rix, M.A. (Cantab.).
” ..	Leighton Park School	J. L. Kitto, B.A. (Cantab.).
” ..	Reading School	W. E. Mowton, M.A. (Cantab.); F. B. Chapman, B.Sc. (Lond.); F. H. C. Redington, B.A. (Cantab.); W. J. Streather, B.Sc. (Lond.), A.I.C.
REDCAR ..	Sir Wm. Turner's Grammar School	T. Jackson, B.Sc. (Lond.); W. Pearson, B.Sc. (Leeds); R. J. C. Williams, B.A. (Cantab.).
REDDITCH ..	Secondary School	A. E. Scothern, M.A. (Oxon.); J. C. Rees, B.Sc. (Lond.).
REIGATE ..	Grammar School	A. Clarke, B.Sc. (Lond.).
” ..	County School ..	Miss I. Hincliff, Nat. Sci. Trip. (Cantab.).
REPTON	Repton School	W. Marrs Hooton, M.A. (Oxon.), M.Sc. (Liv.); T. W. Thompson, M.A. (Cantab.); F. S. Taylor, M.A., B.Sc. (Oxon.); H. A. Maynard, M.A. (Cantab.).

Retford	Edward VI Grammar School	W. R. Jackson, B.Sc. (Lond.).
Rhondda	Secondary School, Ferndale	D. Thomas, B.Sc. (Wales), A.I.C.
Rhuddlan	Lowther College, Bodelwyddan Castle	Miss E. Walker, M.A., B.Sc. (St. Andrews).
Rhyl (Flint)	The County School	E. C. Jones, B.Sc. (Wales); L. E. Thomas, B.Sc. (Wales), A.I.C.
Rhymney (Mon.)	Secondary School	J. D. C. Anthony, M.Sc. (Wales), A.I.C.
Richmond (Surrey)	County School for Boys	J. R. Morgan, B.Sc. (Wales), F.I.C.; F. J. Jeffs, B.Sc. (Lond.).
Ripon	Ripon School	C. A. Pridham, M.A. (Oxon.).
Rochdale	Secondary School	T. H. Bott, M.Sc. (Lond.), A.I.C.; J. E. Caygill, M.Sc. (Sheffield).
Rochester	King's School	B. L. Nicol, B.A. (Cantab.); P. D. Gilbert, B.A. (Oxon.).
"	Sir Joseph Williamson's Mathematical School	E. A. Jenkinson, B.Sc. (Lond.), A.R.C.S.; J. N. Judd, B.Sc. (Wales); E. F. Pattenden, B.Sc. (Lond.), A.R.C.S.
Romford	County High School for Girls	Miss F. M. V. Brown, M.Sc. (Leeds); Miss P. M. Miller, B.Sc. (Lond.).
"	Royal Liberty School	E. Jobbing, B.A. (Cantab.).
Ross-on-Wye (Hereford)	Grammar School	H. G. Mountford, B.Sc. (Birm.).
Rossall School (*see* Fleetwood).		
Rothbury (Northumberland)	Sharp's School	E. H. Stevens, B.A. (Lond.).
Rotherham	Grammar School	E. Witham, B.A., B.Sc. (Lond.); H. G. Duncan, M.Sc. (Dun.); S. E. Lord, B.A. (Cantab.).
"	Municipal High School	Miss K. E. Attenborough, Nat. Sci.Trip. (Cantab.); Miss M. Evans, B.Sc. (Lond.).
Rothes (Morayshire)	H.G. Public School	Miss F. H. Gow, M.A. (Aberd.).
Ruabon	Grammar School	H. W. Jones, M.A. (Oxon.), B.Sc. (Lond.).
Rugby	Rugby School	W. A. D. Rudge, M.A. (Cantab.); H. J. Harris, M.A., B.Sc. (Oxon.); M. Attwell, A.R.C.S.
"	Lower School of Lawrence Sheriff	W. J. Ray, B.Sc. (Lond.), A.R.C.S., A.I.C.; Rev. R. Deaville, B.Sc. (Sheffield).
Rugeley (Staffs.)	Grammar School	T. W. Kirkwood, B.Sc. (Dun.), A.I.C.
Runcorn	County Secondary School	H. S. Stalker, M.A., B.Sc. (St. Andrews); W. H. Yates, B.Sc. (Liv.).

SAFFRON WALDEN	Saffron Walden School	Capt. R. A. G. Cane, B.Sc. (Lond.), Headmaster; J. W. Davis, A.R.C.S.
" ..	Friends' School ..	G. S. Pumphrey, B.Sc. (Manc.).
ST. ALBANS ..	St. Albans School	G. Wishart, M.A. (Oxon.); D. R. Hopkins, B.Sc. (Lond.).
ST. AUSTELL (Cornwall)	County School ..	W. V. Barritt, M.A. (Cantab.); Miss E. M. Rich, B.Sc. (Bris.); H. N. Saunders, B.Sc. (Lond.), A.I.C.
ST. BEES (Cumb.)	St. Bees School ..	P. G. Gow, M.A. (Cantab.), B.Sc. (Lond.); F. A. Rhodes, M.A. (Cantab.); S. A. Weare, M.A. (Oxon.).
ST. DAVID'S ..	The County School	J. Davies, B.Sc.
ST. HELENS ..	Cowley School	A. Haywood, B.Sc. (Lond.), A.I.C.
SALFORD ..	Secondary School (Boys')	H. B. Winfield, B.Sc. (Lond.); H. Wood, M.Sc. (Manc.); S. Duckworth, M.Sc. (Manc.); H. Williams, B.Sc. (Manc.).
" ..	Secondary School (Girls')	Miss P. J. Eatock, B.Sc. (Lond.); Miss J. MacWillie, M.Sc. (Liv.).
SALISBURY ..	Salisbury School	——
" ..	Bishop Wordsworth's School	C. F. Dingle, B.Sc. (Lond.).
SANDBACH (Cheshire)	Sandbach School	F. G. Hubbard, M.A. (Cantab.).
SANDOWN (Isle of Wight)	Secondary School	W. Thompson, B.Sc. (Dun.).
SANDWICH (Kent)	Sir Roger Manwood's School	E. V. Marsh, B.Sc. (Liv.), A.I.C.; G. Cleverley, B.Sc. (Lond.), L.C.P.
SCARBOROUGH ..	High School for Boys	G. B. Walsh, B.Sc. (Lond.); J. R. Liddicott, B.A. (Cantab.).
SCORTON (Yorks.)	Grammar School	W. E. Streets.
SEDBERGH ..	Sedbergh School	A. J. K. Martyn, M.A. (Cantab.); G. F. Woodhouse, M.A. (Cantab.); A. Cawood, B.Sc. (Lond.); J. M. Eagles, B.A. (Cantab.); L. R. Taylor, B.A. (Cantab.).
SEDGEBROOK (*see* GRANTHAM).		
SELBY	Drax Grammar School	G. Pickering, M.A. (Cantab.); C. E. Shipley, B.Sc. (Dun.).
SETTLE (Yorks.)	Giggleswick School	P. Haswell, M.A. (Cantab.); R. F. Bloom, M.A. (Cantab.), B.Sc. (Lond.), A.I.C.
" ..	High School ..	Miss W. Boett, B.Sc. (Dun.).
SEVENOAKS ..	Grammar School	H. L. White, B.Sc. (Lond. and Leeds).

SHAFTESBURY (Dorset)	Grammar School	W. Ramshaw, M.Sc. (Leeds); L. P. V. Veale, B.A. (Lond.); W. D. Coleman, B.A. (Lond.).
SHEBBEAR (Devon)	United Methodist College	S. Fowlston.
SHEFFIELD ..	Abbeydale Secondary School (Girls)'	Miss A. C. Holgate, B.Sc. (Lond.), A.I.C.
„ ..	King Edward VII School	H. V. S. Shorter, M.A. (Oxon.); S. V. Carter, B.Sc. (Lond.); N. Lee, B.A. (Cantab.); H. Redston, B.Sc. (Lond.); A. Thompson, B.Sc. (Lond.).
„ ..	Central Secondary School for Boys	J. M. Brown, B.Sc. (Lond. and Sheffield); A. Burgess, B.Sc. (Lond.).
„ ..	Nether Edge Secondary School	W. Ritchings, M.Sc. (Vict.), A.I.C.; F. Potts, B.Sc. (Lond.), B.Sc. Tech. (Manc.).
„ ..	Woodhouse Secondary School	A. Holderness, M.Sc. (Sheffield); A. B. Langrish, B.Sc. (Lond.).
SHEPTON MALLETT	Grammar School	C. M. Rider, B.Sc. (Lond. and Leeds); W. Aldridge, B.A., B.Sc. (Lond.).
SHERBORNE (Dorset)	Sherborne School	C. Palmer, B.A. (Cantab.); L. B. H. Wright, M.A. (Cantab.); A. F. P. Andrews, B.A. (Oxon.).
„ ..	Foster's School	M. M. Welcher, B.Sc. (Lond.).
SHIPLEY ..	Salt School ..	H. L. Watkinson, M.A. (Cantab.), B.Sc. (Lond.), A.I.C., Headmaster; W. P. Winter, B.Sc. (Lond. and Wales); S. Davies, B.Sc. (Lond.); F. L. Swift, M.Sc. (Leeds).
SHOREHAM (Sussex)	Lancing College	J. H. Cooper, B.A. (Oxon.); Rev. J. R. Missen, B.Sc. (Lond.); A. E. Ellis, B.A. (Oxon.); E. C. Collymore, B.A. (Cantab.); R.O. Watson, B.A. (Cantab.).
SHREWSBURY ..	Shrewsbury School	———
„ ..	Priory County School	S. D. Stennitt, M.Sc. (Manc.), A.I.C.
SIDCOT (Somerset)	Friends' School	B. Lean, B.A., D.Sc. (Lond.); C. P. Abbatt, B.A. (Cantab.); G. W. Hutchinson, B.A. (Cantab.).
SILCOATES (*see* WAKEFIELD).		
SITTINGBOURNE	Borden Grammar School	H. Preston, B.Sc. (Lond.), A.R.C.S., A.I.C.
SKIPTON ..	Ermysted's Grammar School	T. Hibbert, B.Sc. (Lond.).
SLEAFORD ..	Grammar School	H. E. Smith, B.Sc. (Lond.).

SLOUGH ..	Secondary School	B. Llewellyn, M.Sc. (Manc.), A.I.C.; H. C. Barnes, M.A. (Oxon.).
SOHAM	Grammar School	C. J. Ford, B.Sc. (Liv.).
SOLIHULL (Warwickshire)	Solihull School ..	R. B. Wright, B.Sc. (Manc.).
SOUTHAMPTON ..	Grammar School for Girls	Miss J. Sykes, B.Sc. (Lond.).
" ..	King Edward VI School	Rev. W. Hughes, M.A., B.Sc. (Oxon.); S. D. Caddick, M.A. (Cantab.); T. K. Slade, B.Sc. (Lond.); A. S. Arnold, B.Sc. (Lond.).
" ..	Itchen Secondary School, Bitterne	E. Scott, B.A., B.Sc. (Lond.); J. Holland, B.Sc. (Lond.).
" ..	Taunton's School	R. G. Tulley, B.Sc. (Lond.); H. F. Halliwell, B.Sc. (Lond.).
SOUTHEND-ON-SEA	Boys' High School	A. J. Walker, B.Sc. (Vict.); L. B. Fox, M.Sc. (Lond.); R. J. Fox, M.Sc. (Lond.); C. Proud, B.Sc. (Lond.).
" ..	Girls' High School	Miss G. M. Watkins, B.Sc. (Lond.).
" ..	Westcliff High School for Boys	H. Smith, B.Sc. (Lond.); S. W. Worrell, B.Sc. (Lond.); J. W. Bates, B.Sc. (Birm.).
SOUTHPORT ..	King George V School, Dearisbrick New Road	C. Woodham, B.Sc. (Manc.); H. Higham, B.Sc. (Liv.).
SOUTH SHIELDS	High School ..	W. T. Lucas, M.A. (Cantab.); A. A. Hall, B.Sc. (Dun.).
" ..	Westoe Secondary School	T. E. Newby, B.Sc. (Dun.); W. H. Naylor, M.Sc. (Leeds), A.I.C.
SOUTHWELL (Notts.)	Minster Grammar School	F. A. Samuels, B.A. (Cantab.).
SOWERBY BRIDGE (Yorks.)	Sowerby Bridge Secondary School	F. Mountain, M.Sc. (Leeds); Miss E. Lyall, B.Sc. (Leeds.)
SPALDING (Lincs.)	Donington Grammar Schoool	F. L. Kirk, B.Sc. (Lond.).
" ..	Moulton Grammar School	G. F. H. Burns, M.A. (Cantab.).
" ..	Secondary School	E. W. Bell.
SPENNYMOOR	Ald. Wraith Secondary School	J. I. Leckie, B.Sc. (Lond.); J. Troupe, B.Sc. (Lond.); Miss E. M. Roberts, B.Sc. (Lond.).
STAFFORD ..	King Edward VI Grammar School	J. Poole, B.Sc. (Lond.); M. H. Cocks, B.Sc. (Lond.).
STAMFORD (Lincs.)	Stamford School	A. F. R. Evans, M.A. (Cantab.).
STEYNING ..	Grammar School	K. C. Barnes, B.Sc. (Lond.).
STOCKPORT ..	Grammar School	A. South, M.Sc. (Manc.).
" ..	Secondary School, New Mills	F. Dearden, M.Sc. (Manc.); W. A. Whitton, M.Sc. (Liv.), A.I.C.

STOCKTON-ON-TEES	Secondary School for Boys	H. Nicholson, M.Sc. (Dun.)
STOKE-ON-TRENT	County Grammar School, Wolstanton	W. C. Rhymes, B.A. (Oxon.); W. Holmes, M.Sc. (Manc.).
”	Hanley High School	J. D. Wilton, B.Sc. (Lond.); E. G. Laws, M.A., B.Sc. (Oxon.).
” ..	Longton High School	W. Harris, M.A. (Cantab.), Ph.D. (Heid.), Headmaster; W. W. Leach, B.Sc. (Lond.); N. G. Bird, B.Sc. (Bris.); H. C. Phillips, M.A. (Cantab.).
STONE (Staffs.)	Alleyne's Grammar School	A. Barlow, B.Sc. (Manc.).
STONEHAVEN	Mackie Academy	W. Jolly, B.Sc. (Aberd.); C. F. Willox, M.A. (Aberd.)
STOURBRIDGE ..	King Edward VI School	J. Timbrell, B.Sc. (Lond.), A.I.C.; S. J. Featherston, B.Sc. (Lond.), A.I.C.; G. R. Gibbs, M.A., B.Sc. (Manc.), A.I.C.
STOWMARKET ..	County Secondary School	T. A. Staynes, B.A. (Oxon.).
STRATFORD-ON-AVON	Edward VI School	F. J. Turner, B.A. (Cantab.).
STRAWBERRY HILL (Middlesex)	St. Mary's College	J. J. Doolan, Ph.D. (Lond.), F.I.C.
STREET (Som.)	Elmhurst County School	A. J. Low, M.Sc. (Liv.), A.I.C.
STROUD ...	Marling School ..	C. G. Williams, B.A. (Lond.); H. Bailes, M.A. (Cantab.), A.I.C.; E. Pearce, B.Sc. (Bris.), A.I.C.
SUDBURY (Suffolk)	Grammar School	A. G. Lane, B.Sc. (Dun.).
SUNDERLAND ..	Bede Collegiate Boys' School	G. A. Bradshaw, M.Sc. (Vict.); T. H. Blyth, B.Sc. (Dun.); G. T. Moore, M.Sc. (Dun.), A.I.C.; J. T. Wills, B.A. (Oxon.).
” ..	Bede Collegiate Girls' School	F. Bailes, B.Sc. (Dun.); Miss D. E. Birchall, B.Sc. (Dun.).
SUTTON (Surrey)	County School	J. A. Cockshutt, M.Sc. (Manc.), A.I.C., Headmaster; A. S. Bibby, M.Sc. (Dun.); N. L. Coult, B.Sc. (Lond.).
SUTTON VALENCE (Kent)	Secondary School	W. G. Garrard, B.A. (Cantab.).
SWANAGE ..	Grammar School	N. F. H. Butcher, B.Sc. (Lond.), A.I.C.
SWINDON	Commonweal Secondary School	T. Hartley, B.Sc. (Lond.), F.I.C., Headmaster; K. Willmore, B.Sc. B.Com., (Birm.); G. Williamson, B.Sc. (Manc.).
TADCASTER ..	Grammar School	P. Warin, B.Sc. (Leeds).

TAMWORTH	Grammar School	W. E. Summerhays, B.Sc. (Lond.); E. M. Coleby, B.A. (Cantab.).
TAUNTON	King's College	E. H. Lethbridge, B.A. (Cantab.).
„	Huish's Grammar School	A. Goodliffe, M.A. (Cantab.); C. H. Rutt, B.Sc. (Bris.).
„	Queen's College	R. E. Prentice, B.Sc.
„	Taunton School	R. A. S. Castell, M.Sc. (Birm.), A.I.C.; J. H. A. Hebron, B.Sc. (Lond.); A. G. Marshall, M.A. (Cantab.).
TAVISTOCK	Grammar School	W. R. Hecker, B.Sc. (Lond.), A.I.C., L. H. Woollett, B.Sc. (Lond.).
TEDDINGTON	Farnham Grammar School	H. S. Shelton, B.Sc. (Lond.).
TEIGNMOUTH (Devon)	Grammar School	E. R. Evans, B.Sc. (Wales); Miss V. M. Cook, B.Sc. (Bris.).
TENBY	The County School	J. T. Griffith, B.Sc.; H. J. Williams, B.Sc.
TETBURY	The Grammar School	A. E. Parsons, B.Sc. (Lond.), A.I.C., Headmaster; E. T. Evans, B.Sc. (Wales).
TEWKESBURY	Grammar School	W. H. Struthers, B.Sc. (Manc.).
THAME	Lord Williams' Grammar School	A. P. Anderson, B.Sc. (Lond.).
THETFORD	Grammar School	S. J. Browning, B.Sc. (Lond.).
THIRSK (Yorks.)	Secondary School	W. N. Fraser, B.A., M.Sc. (Liv.).
THORNBURY (Glos.)	Grammar School	B. Laycock, B.Sc. (Manc.); F. H. Pollard, B.Sc. (Bris.), A.I.C.
THORNE (Doncaster)	Grammar School	Rev. B. Langstaff, B.A. (Leeds), B.Sc. (Leeds and Vict.), Headmaster.
TIVERTON	Blundell's School	E. G. Peirce, M.A. (Cantab.); G. V. Hotblack, M.A. (Cantab.); W. Bygrave, M.A. (Cantab.).
„	Boys' Middle School	L. W. White, B.Sc.Agric. (Lond.).
TODMORDEN	Secondary School	W. O. Ross, B.Sc. (Leeds).
TONBRIDGE	Tonbridge School	C. Seargent, B.Sc. (Lond.), Ph.D. (Marburg); W. Arnold, M.A. (Cantab.); E. J. H. Eames, M.A. (Cantab.); J. N. F. Morris, M.A. (Cantab.); M. R. Brown, M.A., B.Sc. (Oxon.); R. Postill, B.A. (Cantab.).
„	County School	Miss M.M. Grimes, B.Sc. (Lond.).
„	Sir A. Judd's Commercial School	A. L. Howells, B.Sc. (Lond.); J. K. Haynes, B.Sc. (Bris.).
TONYPANDY (Rhondda)	Secondary School	G. Davies, B.Sc. (Wales).
TOTNES	King Edward VI Grammar School	D. Fletcher, B.Sc. (Vict.); G. Booth, B.Sc. (Lond.).

TOWYN	County Intermediate School	D. J. Jones, B.Sc. (Wales), A.I.C.; H. W. V. Robinson, B.Sc. (Wales); W. R. A. Williams, B.Sc. (Wales); Miss M. Owen, B.Sc. (Wales).
TRENT (Derbyshire)	Trent College	S. Featherston, B.Sc. (Manc.); C. G. Vasey, B.A. (Cantab.).
TREGARRON (Cardiganshire)	County School	T. J. Evans, B.Sc. (Wales).
TROWBRIDGE	High School	T. Morgan, B.Sc. (Wales).
„	County High School for Girls	Miss F. Greeves, M.Sc. (Dun.).
TRURO	Truro College	E. H. Magson, M.A., D.Sc.; H. K. Ault, B.Sc.; R. A. Green, M.Sc.
TUNBRIDGE WELLS	High School for Girls	Miss P. K. Gossling, B.Sc. (Lond.).
„	Skinners' School	F. H. Midwood, Ph.D. (Zürich).
TWICKENHAM	County School	Miss C. Harvey, B.Sc. (Lond.); Miss D. Kirby, B.Sc. (Lond.).
TYNEMOUTH	Municipal High School	G. Adamson, B.Sc. (Manc.); C. Hughes, M.Sc. (Dun.).
UCKFIELD	Grammar School	J. Evans.
ULVERSTON	Victoria Grammar School	J. Oliver, B.Sc. (Lond.); Miss F. M. Brown, B.Sc. (Manc.).
UPPINGHAM	Uppingham School	P. W. Oscroft, M.A. (Cantab.); D. J. Walters, M.A. (Oxon.); R. P. Shea, M.A. (Oxon.).
USHAW (Co. Durham)	St. Cuthbert's College	Rev. J. Adamson, M.A. (Cantab.).
UXBRIDGE	County School	E. S. Davies, B.Sc. (Lond.).
WAKEFIELD	Grammar School	G. E. Welch, M.A. (Dub.), B.Sc. (Lond.); T. W. Gibling, B.A., B.Sc. (Lond.).
„	Silcoates School	E. L. Mills, B.Sc. (Manc.).
„	Thornes House Boys' Secondary School	G. F. Pearce, B.Sc. (Lond.); E. J. L. Reynolds, B.Sc. (Lond.), A.R.C.S., A.I.C.; J. R. Davies, B.Sc. (Wales)..
WALLASEY	Grammar School	W. A. Kynaston, B.Sc. (Lond.); L. E. Barker, B.Sc. (Lond.); J. Bradley, B.A. (Cantab.), B.Sc. (Lond.).
WALLINGFORD	Grammar School	J. L. Pasquil, B.A. (Cantab.).
WALLSEND-ON-TYNE	Secondary School	J. F. Young, B.Sc. (Dun.).
WALSALL	Queen Mary's Grammar School	E. A. Mason, B.Sc. (Birm.); W. E. Terry, B.A. (Cantab.).
WANTAGE	King Alfred's School	A. M. Allen.

Ware	St. Edmund's College, Old Hall	J. A. Dobson.
Warrington ..	Grammar School	L. Cockram, B.Sc. (Vict.), A.I.C.; D. H. Christ, B.A. (Cantab.).
" ..	Friends' School, Penketh	C. H. Moss, M.A. (Cantab.); A. B. Dilks, B.A. (Cantab.).
" ..	Secondary School	J. S. Broome, M.Sc. (Manc.); S. J. Wilson, B.Sc. (Lond.); L. Jones, B.Sc. (Manc.), A.I.C.
Warwick ..	Warwick School ..	K. St. C. Carruthers, M.A. (Cantab.); C. T. Freeman, M.A. (Cantab.); Rev. H. E. Cullis, M.A., B.Sc. (Oxon.).
Washington (Co. Durham)	Secondary School	H. Preston, B.Sc. (Dun.), A.I.C.
Watford ..	Grammar School (Boys)	A. H. Cooper, M.Sc. (Vict.); W. Corbridge, B.Sc. (Lond.); H. G. Andrew, B.A. (Cantab.).
" ..	Grammar School (Girls')	Miss L. C. Rogers, M.A. (Oxon.); Miss M. Crimes, B.Sc. (Glas.).
" ..	London Orphan School	H. J. Crickmore.
" ..	Royal Masonic (Senior) School	J. R. Lister, B.Sc. (Lond.); A. E. Dole, M.A. (Cantab.); H. T. Jarman, B.A. (Cantab); C.H. Potter, B.A. (Cantab.).
Wath-upon-Dearne	Secondary School	W. B. Williams, M.Sc. (Wales), A.I.C.
Wellingborough	Grammar School	C. H. Oxland, M.Sc. (Manc.); H. L. Allsopp, B.A. (Cantab.); H. G. Sale, B.A. (Cantab.).
Wellington (Salop)	High School	W. M. Burchall, B.Sc. (Lond.); W. F. Welling, B.Sc. (Lond.), A.I.C.
" ..	Wrekin College ..	F. W. Carpenter, M.A. (Cantab.), A.I.C.
Wellington (Som.)	Wellington School	B. J. A. Neill, M.A., B.Sc.; J. Baker, B.Sc.
Wellington College (*see* Wokingham).		
Wells	Boys' Blue School	R. J. Housden, M.A. (Cantab.).
Welshpool ..	County Secondary School	W. Roberts, B.Sc.
Wem (Salop.)	Adams Grammar School	A. S. C. Fothergill, B.Sc. (Manc.).
Wembley ..	County School ..	J. R. Cox, B.Sc. (Lond.), A.I.C.
West Bromwich	Municipal Secondary School	A. J. Menzies, M.A., B.Sc.; H. C. Print, M.Sc. (Birm.), A.I.C.
West Hartlepool	Secondary School	G. W. Young, B.Sc. (Dun.); T. H. Burrell, B.Sc. (Dun.).
" ..	High School for Girls	J. W. Oliver, B.Sc. (Edin.).

WEST HORSHAM	Christ's Hospital	D. H. Burleigh, M.Sc. (Lond.); S. H. Jennings, M.A. (Cantab.); A. E. Johnson, M.A. (Oxon.); C. F. Kirby, B.A. (Cantab.); G. Green, B.A. (Cantab.); R. F. J. Brown, B.A. (Cantab.); P. Bateman, B.A. (Cantab.); J. A. Lauwerys, B.Sc. (Lond.), A.I.C.
WEST KIRBY	Calday Grange Grammar School	A. McFarlane, M.Sc. (Leeds), A.I.C.;
WEST STANLEY (Co. Durham)	Secondary School	H. F. Gunns, B.Sc. (Birm.); D. R. Lewis, B.Sc. (Manc.).
WEYBRIDGE	St. George's College	J. Passau, M.A. (Dub.).
WEYMOUTH	Weymouth College	E. Watson, M.Sc. (Sheffield); G. H. Hamilton, B.A. (T.C.D.).
WHITBY (Yorks.)	County School	W. A. Bradley, B.Sc. (Lond.), Ph.D. (Münster), A.R.C.S., Head master.
WHITCHURCH (Salop.)	Grammar School	M. P. J. Gapp, B.Sc. (Lond.), A.I.C.
WHITEHAVEN	County Secondary School	S. Holliday, M.A. (Oxon.); Miss C. A. Pennington, B.Sc. (Liv.).
WHITLAND (Carm.)	County School	D. T. Evans, B.Sc. (Wales.).
WHITLEY (N'humberland)	Whitley and Monkseaton High School for Boys	F. Willott, M.Sc. (Manc.); H. P. Young, B.Sc. (Lond.); S. Holmes, M.Sc. (Dun.).
WIDNES	Secondary School	J. F. Marrion, B.Sc. (Liv.); J. J. Stubbs, B.Sc. (Liv.).
WIGAN	Grammar School	H. C. Hickinbotham, A.R.C.S.; W. G. Allanson, B.Sc. (Manc.); S. R. Stubbs, M.Sc. (Manc.).
WIGTON (Cumb.)	Nelson School	W. Dazeley, B.A., B.Sc. (Lond.); J. E. Grindley, B.A. (Lond.).
WIMBORNE	Queen Elizabeth's Grammar School	C. R. Fowler, M.A. (Oxon.).
WINCHESTER	Winchester College	F. W. Goddard, M.A. (Cantab.); G. C. Crompton, B.A. (Cantab.).
„	Peter Symonds School	P. T. Freeman, M.B.E., Ph.D., (Lond.), A.I.C.; C. Simpson, M.Sc. (Manc.), A.M.C.T., A.I.C.; E. Tanner, B.Sc. (Lond.), A.R.C.S.
WINDERMERE	Grammar School	P. P. Platt, M.A. (Cantab.), B.Sc. (Lond.).
WINDSOR	Imperial Service College	W. E. Spawls, B.Sc.
„	Beaumont College, Old Windsor	Rev. C. Meli, M.A. (Oxon.); P. C. Leggetter, B.A. (Oxon.); E. G. Hood, B.A. (Cantab.).
„	County Boys' School	H. G. Lansberry, M.A. (Cantab.).

WISBECH	Grammar School	E. J. Saunders, B.A. (Cantab.).
WITNEY (Oxon.)	Grammar School	A. L. Parker, M.A. (Oxon.).
WOKINGHAM (Berks.)	Wellington College	Rev. T. Lemmey, M.A., D.D. (Oxon.); T. F. Mackenzie, B.A. (Oxon.); B. C. L. Kemp, M.A. (Oxon.).
WOLSINGHAM (Co. Durham)	Grammar School	J. Baker, B.Sc. (Dun.).
WOLVERHAMPTON	Grammar School	C. Wyatt-Edgell, M.A. (Oxon.); W. J. Evans, B.Sc. (Lond.).
„	Municipal Secondary School	A. Weston, M.Sc. (Lond.), A.I.C.; N. Maughan, B.Sc. (Dun.).
„	Royal Orphanage (Boys)	Rev. W. L. Allen, M.A. (Cantab.), Headmaster; E. J. Hopkins, B.Sc. (Wales); G. C. Geear.
„	St. Chad's School, Old Fallings Hall	———
WOLVERLEY (Worcs.)	Secondary School	E. A. Gaussen, M.A. (Cantab.).
WOLVERTON (Bucks.)	County School	Miss D. Herbert, B.Sc. (Lond.).
WOODBRIDGE (Suffolk)	Woodbridge School	G. A. Mossop, M.A. (Cantab.), B.Sc. (Lond.); W. G. Gledhill, M.A. (Cantab.).
WOODFORD GREEN	Bancroft's School	F. F. Peet, B.Sc. (Lond.).
„	County High School	Miss H. E. Mitchell, B.Sc. (Bris.); Miss E. Appleby, B.Sc. (Manc.).
WORCESTER	Royal Grammar School	R. J. Carter, M.A. (Oxon.), F.I.C.; J. C. Giblin, B.Sc. (Lond.), A.I.C.; G. Ward, B.Sc. (Lond.)
„	Cathedral King's	R. M. M. Beach-Hicks.
WORKINGTON	Secondary School	E. H. Todd, M.A. (Oxon.), A.I.C.; J. S. Swales, B.Sc. (Sheffield).
WORKSOP	The College	R. D. Reid, B.Sc., D.Phil. (Oxon.); W. Hall, M.A., M.Sc. (Sheffield); H. O. Beck, M.A. (Oxon.).
WORTHING	High School for Girls	Miss B. W. Swaine, B.Sc. (Lond.); Miss K. H. Craver, B.Sc. (Lond.).
WOTTON-UNDER-EDGE (Glos.)	Lady Berkeley Grammar School	J. Mortimer.
WREXHAM	County School for Boys, Grove Park	G. Symonds, B.Sc. (Wales), A.I.C.; A. R. Lindsay, B.Sc. (Lond.), A.R.C.S.
YARM	Grammar School	G. W. Hall, B.Sc. (Dun.).
YEADON & GUISELEY	Secondary School	T. E. Gregory, B.Sc. (Bris.), A.I.C.
YEOVIL	Yeovil School	H. M. Lyddon, B.Sc. (Lond.).
YORK	Archbp. Holgate's Grammar School	H. G. R. Worth; E. F. Wright, B.Sc. (Leeds); W. H. C. Burn, B.A. (Cantab.).

YORK	Bootham School	C. E. L. Livesey, B.Sc. (Vict.); J. A. Dell, M.Sc. (Vict.).
”	College for Girls	Miss N. J. Raves, B.Sc. (Lond.); Miss E. H. Beeston, B.Sc. (Birm.).
”	Mill Mount Secondary School	Miss D. L. Ridd, B.Sc. (Lond.); Miss D. G. Palmer, B.Sc.(Lond.).
”	Nunthorpe Secondary School	P. Bennett, B.Sc. (Leeds); T. W. Covey.
”	St. John's College	T. J. Wall, M.A., B.Sc. (Oxon.), A.I.C.
”	St. Peter's School	C. R. Featherstone, M.A. (Oxon.); W. H. G. Milnes, M.A. (Oxon.).
YSTRADGYNLAIS (Brecon)	County School	S. U. Evans, M.Sc. (Wales), A.I.C.

NORTHERN IRELAND.

MINISTRY OF AGRICULTURE AND OF COMMERCE, AND MINISTRY OF HOME AFFAIRS.

Chief Official Agricultural Analyst to the Ministry of Agriculture.—G. S. Robertson, D.Sc. (Dun.), F.I.C.

Assistant, Chemical Research Division.—J. C. Baird, B.Sc., B.Ag. (Q.U.B.), A.I.C.

AGRICULTURAL RESEARCH INSTITUTE (HILLSBOROUGH).

Technical Assistant, Poultry Department.—J. H. Prentice, B.Sc., B.Ag. (Q.U.B.), A.I.C.

Official Agricultural Analysts appointed under the Fertilisers and Feeding Stuffs Act, 1906, are the same as the Public Analysts appointed under the Sale of Food and Drugs Acts, 1875 and 1899.

ANTRIM		J. Harold Totton, B.A., B.Sc. (R.U.I.), F.I.C.
ARMAGH		
BELFAST		
DOWN		John Hawthorne, B.A. (R.U.I.), Ph.D. (Jena), F.I.C.
	Bangor	
FERMANAGH		C. McMullan, F.I.C.
LONDONDERRY		J. Harold Totton, B.A., B.Sc. (R.U.I.), F.I.C.
”	(City & C.B.)	John Hawthorne, B.A. (R.U.I.), Ph.D. (Jena), F.I.C.
TYRONE		R. F. Blake, F.I.C.

MEDICINE ANALYSTS TO UNIONS.

CO. ANTRIM	Antrim	R. F. Blake, F.I.C.
	Ballycastle	
	Ballymoney	
	Belfast	
	Larne	
	Lisburn	C. McMullan, F.I.C.

Co. ARMAGH	Armagh	R. F. Blake, F.I.C.
	Lurgan	
Co. DOWN	Banbridge	R. F. Blake, F.I.C.
	Downpatrick	C. McMullan, F.I.C.
	Kilkeel	
	Newry	
	Newtownards	R. F. Blake, F.I.C.
Co. LONDONDERRY	Coleraine	R. F. Blake, F.I.C.
	Londonderry	
	Limavady	W. Thorp, F.I.C.
	Magherafelt	C. McMullan, F.I.C.
Co. TYRONE	Castlederg	R. F. Blake, F.I.C.
	Clogher	
	Cookstown	
	Dungannon	C. McMullan, F.I.C.
	Omagh	
	Strabane	R. F. Blake, F.I.C.

ALKALI, ETC. WORKS' REGULATION ACT, 1906.

Chief Inspector (N.I.).—Hugh Graham, D.Sc. (Q.U.B.), A.I.C.

MINISTRY OF EDUCATION.

PROFESSORS AND TEACHERS OF CHEMISTRY IN QUEEN'S UNIVERSITY, BELFAST, AND IN COLLEGES AND TECHNICAL INSTITUTIONS.

BALLYMENA	Technical School	D. McClelland, A.R.C.Sc.I., A.I.C.

BELFAST: MUNICIPAL COLLEGE OF TECHNOLOGY.*

Professor of Chemistry.—H. Wren, M.A. (Oxon.), D.Sc. (Lond.), Ph.D. (Tübingen).

Lecturer in Bleaching and Dyeing.—C. J. Still, B.Sc. (Lond.), Ph.D. (Belfast), A.I.C.

Lecturers.—J. W. Porter, F.R.C.Sc.I., F.I.C.; Miss K. H. Hughes, B.A. (T.C.D.), M.Sc. (Belfast), A.I.C.

Pharmacy.—C. W. Young; T. Harper; W. Honneyman, Ph.D. (Q.U.B.), F.I.C.

BELFAST: QUEEN'S UNIVERSITY.*

Professor of Chemistry.—A. W. Stewart, M.A., D.Sc.

Reader in Organic Chemistry.—H. Graham, D.Sc. (Q.U.B.), A.I.C.

Junior Lecturer.—J. K. Marsh, D.Sc. (Q.U.B.), A.I.C.

Senior Assistant.—N. S. Capper, M.Sc.

Junior Assistant.—Miss G. E. Canning, M.Sc.

Professor of Biochemistry.—J. A. Milroy, M.A., M.D.

Lecturer.—S. Andrews, M.D., B.Sc.

Junior Lecturer.—Miss F. J. R. Beattie, M.Sc.

Lecturer in Charge of Agricultural Chemistry.—R. G. Baskett, B.Sc., A.I.C.

Junior Lecturer.—J. Houston, M.Sc.

Assistants.—J. C. Baird, B.Sc., B.Agr. (Q.U.B.), A.I.C.; R. G. Common, B.Sc., B.Agr.; J. R. Prentice, B.Sc., A.Agr. (Q.U.B.)., A.I.C.

Lecturers in Public Health Chemistry.—Prof. W. J. Wilson, M.D.; J. H. Totton, B.A., B.Sc. (R.U.I.), F.I.C.

Coleraine (Co. Derry)	Technical School	W. R. Johnston, A.R.C.Sc.I.
Larne (Co. Antrim)	Technical School	Miss M. Clements, B.Sc.
Londonderry	Municipal Technical School	J. Stewart, M.A., B.Sc., (St. Andrews).
Lurgan	Technical School	T. W. Hall, B.Sc., A.R.C.Sc.I.
Magherafelt	Technical School	E. Knox, A.R.C.Sc.I.
Newry	Technical School	A. F. Fanning, B.Sc.

PUBLIC AND SECONDARY SCHOOLS.

Armagh	Royal School	J. J. Hogg, B.Sc. (Lond.), A.R.C.S.
Ballyclare	Intermediate School	A. T. Tooweather, M.Sc.
Ballymena	Academy	Miss E. Kyle, B.Sc.
Ballymoney (Co. Antrim)	Intermediate Secondary School	Miss E. W. McKay, B.Sc. (Q.U.B.).
Bangor	Endowed School	R. E. Russell, B.Sc.
Belfast	Campbell College	H. Lindsay, B.A. (Lond.); A. G. Spencer, B.A. (Lond.).
„	Methodist College	J. R. Brown, M.A., B.Sc.; C. S. Bailey, B.A. (Cantab.); A. F. Clarke, B.Sc.
„	Royal Academy	D. J. Carpenter, A.R.C.S.; G. B. Taylor, B.Sc. (Liv.); C. C. Harte, B.Sc.
„	Royal Academical Institution	J. C. A. Brierley, M.Sc. (Manc.), F.I.C.; H. F. Henderson, B.Sc. (Q.U.B.); R. V. Manning, A.R.C.Sc.I.; T. C. C. Adam, M.Sc.; T. H. Nunan, M.Sc. (Q.U.B.).
„	Victoria College	Miss N. Clarke, B.Sc. (Q.U.B.).
Coleraine	Academical Institution	H. Wilson, B.Sc.
Enniskillen	Portora Royal School	H. S. Scales, A.R.C.Sc.I., A.I.C.
Larne	Grammar School	A. B. Shepherd, B.Sc.
Lisburn	Friends' School	J. A. Bennington, B.Sc.
„	Intermediate School	W. J. Breahey, B.Sc.
Londonderry	Foyle College	H. R. Norton, B.Sc. (Lond.), M.Sc. (Birm.), A.I.C.
Lurgan (Co. Armagh)	Watt's School	A. B. Sheppard, B.Sc.; J. McC. Greenlees, B.Sc. (Q.U.B.).
Magherafelt	Rainey School	T. H. Black, B.Sc.
Newtownards (Co. Down)	Regent House School	R. F. Burrows, Ph.D.

IRISH FREE STATE.

STATE LABORATORY.

State Chemist.—H. Ryan, M.A., D.Sc. (N.U.I.).

Assistant State Chemist.—T. J. Nolan, B.A., D.Sc. (N.U.I.), F.I.C.

Senior Chemist.—G. Brownlee, B.Sc. (Edin.), F.I.C.

Junior Chemists.—F. Fogarty, M.Sc.; J. Kearns, B.Sc. (N.U.I.), A.R.C.Sc.I., A.I.C.; P. K. O'Toole, M.Sc. (N.U.I.), A.I.C.; P. Whelan, A.R.C.Sc.I., A.I.C.; J. M. Veale, A.R.C.Sc.I., A.I.C.; P. J. Cahill, M.Sc. (N.U.I.), A.I.C.; M. G. Mitchell, A.R.C.Sc.I., A.I.C.; P. J. Hurley, M.Sc. (N.U.I.), A.I.C.

Temporary Chemists.—D. H. Earle, M.Sc. (N.U.I.); N. R. Curtin, A.R.C.Sc.I., A.I.C.; Miss J. Doyle, M.Sc. (N.U.I.).

LABORATORY OF BUTTER-TESTING STATION OF DEPARTMENT OF LANDS AND AGRICULTURE.

Official Analyst.—P. S. Arup, M.Sc. (Lond.), A.C.G.I., F.I.C.

Bacteriologist under the Dairy Produce Act.—G. Van B. Gilmour, Ph.D. (Lond.), A.R.C.Sc.I., F.I.C.

Assistant Analyst.—Miss M. MacNeill, M.Sc. (N.U.I.), A.R.C.Sc.I., A.I.C.

Assistant Bacteriologist.—G. B. Callaghan, M.Sc. (N.U.I.), A.R.C.Sc.I., A.I.C.

DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION.

PROFESSORS AND TEACHERS OF CHEMISTRY IN THE UNIVERSITIES, COLLEGES AND TECHNICAL INSTITUTIONS IN THE IRISH FREE STATE.

CORK	Crawford Municipal Technical Institute	D. Madden, M.Sc. (N.U.I.), A.R.C.Sc.I., A.I.C.
"	County Technical Education Committee Technical Schools	A. J. Maloney, A.R.C.Sc.I.

CORK: UNIVERSITY COLLEGE.* (National University of Ireland.)

Professor of Chemistry.—J. Reilly, M.A. (Cantab. & T.C.D.), M.A., D.Sc. (N.U.I.), Sc.D. (T.C.D.), D.ès.Sc. (Geneva), F.R.C.Sc.I., F.Inst.P., F.I.C.

Lecturers.—J. Taylor, D.Sc. (N.U.I.), M.Sc. (Vict.); R. Kennedy, M.Sc.

Assistant.—P. J. Drumm, Ph.D.

Junior Demonstrator.—R. Molloy, B.Sc.

Demonstrator in Applied Chemistry.—P. P. Donovan, M.Sc.

Lecturer in Agricultural Chemistry.—G. T. Pyne, Ph.D. (Lond.), A.R.C.Sc.I., F.I.C.

Demonstrator in Agricultural Chemistry.—D. McSweeney, M.Sc.

DUBLIN ..	City of Dublin Technical Schools	P. B. Foy; M. J. O'Connor; B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.; G. Watson, A.R.C.Sc.I.

DUBLIN	Royal College of Surgeons in Ireland	W. J. E. Jessop, M.B., Ch.B. (Dub.).

DUBLIN: NATIONAL UNIVERSITY OF IRELAND (Earlsfort Terrace, Dublin). The Colleges in which the Professors and Lecturers of the National University are authorised to teach Matriculated Students of the University, are University College, Dublin; University College, Cork; and University College, Galway.

DUBLIN ..	Pharmaceutical Society of Ireland	H. Norminton, M.Sc.

DUBLIN: TRINITY COLLEGE.* (The University.)

Professor of Chemistry.—E. A. Werner, M.A., Sc.D. (Dub.), F.I.C.

Assistants to Professor of Chemistry.—W. C. Ramsden, M.A. (Dub.); K. C. Bailey, M.A., Sc.D. (Dub.), D.ès Sc. (Toulouse).

Lecturer and Chemical Assistant in School of Physiology.—W. R. Fearon, M.A., Sc.D. (Dub.), F.I.C.

Assistant to Professor of Physiology.—James Bell, B.A., Sc.D. (Dub), A.I.C.

DUBLIN: UNIVERSITY COLLEGE.* (National University of Ireland.)

Professor of Chemistry.—H. Ryan, M.A., D.Sc. (N.U.I.)

Lecturers in Chemistry.—J. Algar, M.A., D.Sc. (N.U.I.); J. Keane. M.Sc., Ph.D. (N.U.I.).

Lecturer in Physical and Metallurgical Chemistry.—A. G. G. Leonard, B.Sc. (Lond.), Ph.D. (Bonn), F.R.C.Sc.I., F.I.C.

Lecturer in Applied Organic Chemistry.—A. O'Farrelly, M.A. (N.U.I.), F.I.C.

Lecturer in Agricultural Chemistry.—

DUBLIN ..	The Veterinary College of Ireland, Ballsbridge	A. G. G. Leonard, B.Sc. (Lond.), Ph.D. (Bonn), F.R.C.Sc.I., F.I.C.; A. O'Farrelly, M.A. (N.U.I.), F.I.C.
DÚN LAOGHAIRE (Co. Dublin)	Municipal Technical Institute	T. A. Hill, M.A., B.Sc. (N.U.I.), B.Sc. (Lond.), Principal.

GALWAY: UNIVERSITY COLLEGE.* (National University of Ireland.)

Professor of Chemistry.—T. Dillon, M.A., D.Sc.

Assistant.—Miss R. Clarke, B.A. (R.U.I.), D.Sc. (N.U.I.), F.I.C.

GALWAY ..	City Technical Institute	———
KILKENNY	City Technical School	G. T. Phillips; J. Henry, B.E.
WATERFORD ..	Central Technical Institute	J. T. Donnelly, M.Sc., A.R.C.Sc.I.
WEXFORD ..	Municipal Technical School	E. Lousley, A.R.C.Sc.I.

DEPARTMENT OF EDUCATION.

Science Inspectors are required to possess chemical knowledge and skill.

Public and Elementary Schools.

Athlone	Ranelagh School	R. S. Walton, B.Sc. Eng.
Cavan	Royal School	Miss M. C. Tomb, A.R.C.Sc.I.
Cork	Presentation College	P. J. O'Reilly, M.Sc. (N.U.I.), A.I.C.
Drogheda	Grammar School	L. R. Phillips, B.Sc. Eng.
Dublin	High School	G. A. Watson, A.R.C.Sc.I.
”	St. Andrews School	H. Norminton, M.Sc. (Manc.); R. T. Mullen, M.Sc. (Q.U.B.).
”	Mountjoy School	C. G. Thompson, M.A. (T.C.D.).
”	Wesley College	Andrew Rutledge, B.A. (N.U.I.); D. T. Lindsay, B.A. (T.C.D.).
”	Belvedere School	H. G. Flood, A.R.C.Sc.I.
”	Blackrock College	M. J. O'Connor; M. J. O'Shea, B.A. B.Sc.; Rev. J. Keane; T. J. Burke.
”	Diocesan School, Molesworth Street	T. W. F. Jones, M.A. (Dub.);
Galway	Grammar School	T. Kirkman, B.Sc. Eng.
Rathfarnham	St. Columba's School	G. Lodge, A.R.C.Sc.I.

The Geological Survey of the Irish Free State is also under the direction of this Department. At least one of the geologists on the staff is required to have a knowledge of chemical analysis.

Geologist (with Chemical knowledge).—T. Hallissy, B.A.

MINISTRY FOR LOCAL GOVERNMENT.

PUBLIC ANALYSTS.—IRISH FREE STATE.

COUNTY.	BOROUGH.	PUBLIC ANALYST.
Carlow		Miss P. Ryan, M.Sc.
Cavan		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
Clare		Miss P. Ryan, M.Sc.
Cork		D. J. O'Mahony.
	Cork (City)	
Donegal		Miss P. Ryan, M.Sc.
Dublin		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C. *Staff.*—B. C. Coyle; James McCaughey; M. J. Sheehan; D. J. McGrane; H. D. Thornton, A.R.C.Sc.I., A.I.C.
	Dublin (City)	
Galway		Walter Thorp, B.Sc. (Lond. and Leeds), F.I.C.
	Galway	
Kerry		D. J. O'Mahony.
Kildare		Miss P. Ryan, M.Sc.

KILKENNY		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
	Kilkenny (City)	
LEITRIM		Miss P. Ryan, M.Sc.
LIMERICK		Walter Thorp, B.Sc. (Lond. and Leeds), F.I.C.
	Limerick (City)	Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
LONGFORD		Miss P. Ryan, M.Sc.
LOUTH		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
	Drogheda	
MAYO		Charles McMullan, F.I.C.
MEATH		Miss P. Ryan, M.Sc.
MONAGHAN		Charles McMullan, F.I.C.
OFFALY		D. J. O'Mahony.
QUEEN'S		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
ROSCOMMON		Miss P. Ryan, M.Sc.
SLIGO		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
	Sligo	
TIPPERARY		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
South Riding		
North Riding		Miss P. Ryan, M.Sc.
	Clonmel	Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
WATERFORD	Waterford (City)	Miss P. Ryan, M.Sc.; Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
WEST MEATH		Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
WEXFORD		Miss P. Ryan, M.Sc.
	Wexford (City)	Bernard G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
WICKLOW		Miss P. Ryan, M.Sc.

MEDICINE ANALYSTS.

COUNTY BOARDS OF HEALTH	CITY BOARDS OF HEALTH	ANALYSTS
CARLOW		Miss P. Ryan, M.Sc.
CAVAN		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
CLARE		Miss P. Ryan, M.Sc.
CORK (West)		Walter Thorp, F.I.C.
" (East)		D. J. O'Mahony.
	Cork (City)	
DONEGAL		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
DUBLIN (Union)		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
	Balrothery (Union)	
	Rathdown	C. McMullan, F.I.C.

GALWAY		W. Thorp, F.I.C.
KERRY		D. J. O'Mahony.
KILDARE		Miss P. Ryan, M.Sc.
KILKENNY		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.S.Sc.I., F.I.C.
LEITRIM		B. G. Fagan, B. A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
LIMERICK		W. Thorp, F.I.C.
	Limerick (City)	B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
LONGFORD		Miss P. Ryan, M.Sc.
LOUTH		W. Thorp, F.I.C.
MAYO		C. McMullan, F.I.C.
MEATH		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
MONAGHAN		
OFFALY		
LEIX		
ROSCOMMON		Miss P. Ryan, M.Sc.
SLIGO		B. G. Fagan, B.A., B.Sc., (N.U.I.), A.R.C.Sc.I., F.I.C.
WATERFORD		Miss. P. Ryan, M.Sc.
WESTMEATH		B. G. Fagan, B.A., B.Sc. (N.U.I.), A.R.C.Sc.I., F.I.C.
WEXFORD		Miss P. Ryan, M.Sc.
WICKLOW		

GAS REGULATION ACT, 1920.

In accordance with the Act, one of the Referees is required to have a knowledge of gas manufacture. The holder of this appointment is P. O'Callaghan, A.R.C.Sc.I., A.I.C.; the other Referees are engineers.

Chief Gas Examiner.—A. G. G. Leonard, B.Sc., Ph.D., F.R.C.Sc.I. F.I.C.

Gas Examiner.—E. Allen.

THE ALLIANCE AND DUBLIN GAS CONSUMERS ACT, 1874.

Gas Examiner.—G. Brownlee, B.Sc., F.I.C.

II.

Official Chemical Appointments

IN THE EMPIRE OF INDIA, THE DOMINION OF CANADA, THE COMMONWEALTH OF AUSTRALIA, THE DOMINION OF NEW ZEALAND, THE UNION OF SOUTH AFRICA, S. RHODESIA, THE BRITISH COLONIES AND PROTECTORATES, AND ALSO IN EGYPT AND THE SUDAN PROVINCES.

Europe.

GIBRALTAR.

Appointed by the City Council, under the approval of His Excellency the Governor (Section 194, Public Health Ordnance, Gibraltar, 1907).

City Analyst and Bacteriologist.—A. G. Holborow, F.I.C.

Assistants.—M. Comez; H. Bruzon.

MALTA.

Appointed by the Governor of Malta.

UNIVERSITY OF MALTA, VALETTA.

Professor of Chemistry.—A. Sultana, M.D. (Malta).

Demonstrator.—J. Manchi, M.D. (Malta).

PUBLIC HEALTH DEPARTMENT.

Director of Laboratories.—A. Sultana, M.D. (Malta).

Analysts.—F. R. Marich, M.D. (Malta); V. Mifsud, M.D. (Malta).

Asia.

CYPRUS.

GOVERNMENT LABORATORY, NICOSIA.

The Government Analyst is appointed by the Colonial Office. His duties are connected with foods and drugs, public health, medico-legal investigations, customs, fertilizers, etc.

Government Analyst.—S. G. Willimott, Ph.D. (Cantab. and Liv.), A.I.C.

PALESTINE.

GOVERNMENT CENTRAL LABORATORIES, DEPARTMENT OF HEALTH, JERUSALEM.

The Government Analyst is appointed by the Secretary of State for the Colonies. He undertakes work for all Departments, more especially in connection with Public Health, Customs and Excise and criminal investigation. He is Keeper of the Standards under the Weights and Measures Ordinance.

Government Analyst.—G. W. Baker, F.I.C.

Assistant Analyst.—W. J. Itayim.

EDUCATIONAL.

JERUSALEM ..	Hebrew University	A. Fodor, Ph.D. (Halle), Director of Chemical Institute; M. Weizmann, D.ès Sc. (Grenoble); M. Botelsky, Ph.D. (Berne); Miss R. Rivlin, D.Sc. (Utrecht); A. Reifenberg, Ph.D. (Geissen).
SAFAD ..	Scots College ..	—

('IRAQ) MESOPOTAMIA.

GOVERNMENT CHEMICAL DEPARTMENT, BAGHDAD.

Government Chemist.—F. L. Bassett, B.Sc. (Lond.), F.I.C.

Assistant Government Chemist (*Analytical*).—J. D. Kidd, B.A., M.Sc. (Dub.,, A.I.C.

Assistant Government Chemist (*Tutorial*).—W. D. Raymond, B.Sc.

AIR MINISTRY, HINAIDI.

Chemist Officer.—H. Leaton Edwards, jun.

THE EMPIRE OF INDIA.

CHEMICAL EXAMINERS TO THE GOVERNMENT OF INDIA.

Chemical Examiners to the Government of India are usually selected from officers of the Indian Medical Service.

With the view of encouraging such officers to qualify in chemistry, the Government of India have decided that in selecting a probationer for the Chemical Examiner's Department preference shall *cæteris paribus* be given to an officer who has passed examinations of the Institute of Chemistry of Great Britain and Ireland or any equivalent examination; and that for appointment as Chemical Examiner preference shall *cœteris paribus* be given to a probationer who is in possession of the diploma of Fellow or Associate of the Institute of Chemistry or any equivalent degree or diploma.

Qualified officers are attached for a year or more as probationers to a Chemical Examiner's Department (usually at Calcutta, Bombay or Madras), where they are trained and examined as to their practical efficiency by the Chemical Examiner. Each Chemical Examiner has a staff of native assistants, usually medical graduates or licentiates of Indian Universities who have passed through probationary courses of training in a Chemical Examiner's Department. The duties undertaken by the Chemical Examiners are of very varied character, and include:—Medico-legal investigations, in suspected cases of poisoning of men or cattle; water analyses for the Engineering and Sanitary Departments; commissariat analyses of supplies to troops: Customs analyses: articles to be tested for purity and percentage of adulteration under the Merchandise Marks Act, including analyses of oils, fats, waxes, paints, varnishes, drugs and perfumes; examination of medicines from the Medical Store Department, for the estimation of alkaloids, and for general purity and strength; agricultural analyses (soils, lime, cement, etc.) for various Government Departments; general food analyses for municipalities, under the Sale of Food and Drugs Act, where it is in operation.

AGRICULTURAL AND EDUCATIONAL SERVICES.

Recruitment for appointments to the above mentioned Service posts in India is no longer ordinarily made by the Secretary of State for India. Almost all such appointments are now under the control of the Government of India and the local Governments. When recruitment for them is undertaken in this country it is conducted by the High Commissioner for India, India House, Aldwych, London, W.C.2. Appointments in these services occur at irregular intervals and recruitment by the High Commissioner is undertaken only at the request of a Government in India. These appointments are normally advertised in the general and technical press and it is not usually possible to furnish regulations except when applications are thus being invited.

INDIAN FOREST SERVICE.

Candidates for appointment to the Indian Forest Service are required to have obtained a degree or diploma in Forestry at a

University of Great Britain or Ireland, and must possess such practical knowledge of Forestry as will enable him to take up duty as assistant conservator of forests without undergoing further training in Europe. Preference is given to candidates who also possess an honours degree in Natural Science. Age limits 20–24 years on May 1st of the year of candidature. Further particulars may be obtained from the Secretary, Services and General Department, India Office, Whitehall, London, S.W.1.

FOREST SERVICE OF BURMA.

Appointments of Burman probationers to the Service are made by the Government of Burma and of European probationers by the High Commissioner for India on behalf of the Government of Burma. Probationers are selected between the ages of 17 to 20, and are required to proceed to the University of Oxford at their own expense to take the course in Forestry, leading to the B.A. degree. An allowance towards the cost of the necessary practical training is made. Further particulars may be obtained from the High Commissioner for India, India House, Aldwych, London, W.C.2.

IMPERIAL SERVICE.

In the following list, the appointments directly under the Imperial Government are mentioned first; the appointments of Chemical Examiners, Professors and Teachers of Chemistry, and Agricultural Chemists are scheduled under the various Indian Provinces, States and Municipalities.

IMPERIAL DEPARTMENT OF AGRICULTURE.

Imperial Agricultural Chemist (Agricultural Research Institute, Pusa, Bihar).—W. H. Harrison, D.Sc. (Manc.).

Physical Chemist.—Vacant.

Assistant.—J. N. Mukerji, B.A., B.Sc. (Allahabad).

PHYSIOLOGICAL CHEMISTRY.

Physiological Chemist.—Vacant.

Assistants.—A. V. Iyer, B.A. (Madras); N. C. D. Gupta, B.A. (Cal.); N. K. Iyer, B.A. (Madras).

AGRICULTURAL BACTERIOLOGY.

Imperial Agricultural Bacteriologist.—J. H. Walton, M.A. (Cantab.).

Assistants.—N. V. Joshi, B.A., M.Sc., L.Ag. (Bom.); S. V. Desai, B.Sc. (Bom.); C. S. R. Iyer, B.A. (Madras); N. D. Vyas, L.Ag.; S. C. Biswas, B.A. (Cal.); S. C. Dutt, B.Sc. (Cal.); H. H. Prasad; H. D. Singh; R. D. Bose, B.Sc.

FOREST RESEARCH INSTITUTE, DEHRA DUN.

Biochemist.—S. Krishna, D.Sc. (Lond.), F.I.C.

Officer-in-Charge, Paper Pulp Section.—M. P. Bhargava, M.Sc. (Allahabad), A.I.C.

Officer-in-Charge, Wood Preservation Section.—F. J. W. Popham, F.I.C.

Officer in Charge, Seasoning Section.—S. N. Kapur, B.Sc. (Punjab), Ph.D. (Göttingen), A.I.C.

Assistant.—S. Kamesam.

INDIAN LAC RESEARCH INSTITUTE, NAMKUM, RANCHI, BIHAR AND ORISSA.

Director.—Mrs. Dorothy Norris, M.Sc. (Manc.), A.I.C.

Physical Chemist.—Dr. R. W. Aldis.

CHEMISTS UNDER THE CENTRAL BOARD OF REVENUE.

Control Laboratory, Lahore.

Special Chemical Adviser.—H. B. Dunnicliff, M.A. (Cantab.), Sc.D. (Dub.), F.I.C.

Chemist.—H. D. Suri, M.Sc. (Punjab).

Chemical Assistant.—Manshar Lal, M.Sc. (Punjab).

Bombay Custom House.

Chemical Examiner.—S. S. Aiyar, B.A., M.Sc. (Madras), Ph.D., A.I.C.

Chemical Assistants.—S. K. Bhavnagri, B.A., B.Sc. (Bombay), B.Sc. Tech. (Manc.); K. S. D. Doss, B.Sc. (Madras); W. K. Joshi; P. S. Krishnan, B.A. (Madras), M.A. (Calcutta); R. B. Joglekar, M.Sc. (Bombay).

Calcutta Custom House.

Chemical Examiner for Customs and Excise.—M. N. Ghose, B.Sc. (Calcutta) (officiating).

Assistant Chemical Examiner.—B. K. Mukhopadhyay, M.Sc. (Cal.) (officiating).

Chemical Assistants.—J. K. Das Gupta; A. N. Basu Mullick, M.Sc. (Calcutta); K. K. Dutta, B.Sc. (Calcutta); R. N. Basu Mullick, B.Sc. (Calcutta); H. K. Pal, M.Sc. (Dacca); S. Bhattacharya, B.Sc. (Calcutta); B. N. Bannerji, M.Sc. (Calcutta); S. N. Goswami, B.Sc. (Calcutta); P. C. Mukherjee, M.Sc. (Calcutta).

Karachi Custom House.

Assistant Chemical Examiner.—V. Subramanyan, B.A. (Madras), D.Sc. (Lond.), F.I.C.

Chemical Assistants.—J. N. Roy, M.Sc. (Calcutta); J. N. Joshi, M.Sc. (Punjab).

Madras Custom House.

Assistant Chemical Examiner.—T. S. T. Chari, B.A. (Madras).

Chemical Assistant.—K. K. Tampy, M.A. (Madras).

Rangoon Custom House.

Assistant Chemical Examiner.—M. N. Niyogi, M.Sc. (Calcutta).

Chemical Assistant.—M. K. De, M.Sc. (Dacca).

Ghazipur Opium Factory.

Opium Chemist.—J. N. Rakshit, F.I.C.

FINANCE DEPARTMENT, GOVERNMENT OF INDIA.

ASSAY DEPARTMENT.

The positions of Assay Master or Deputy Assay Master are filled by direct appointment, in India or in England, of qualified metallurgical chemists ordinarily between the ages of 23 and 27. Recourse will be had to recruitment in England if no qualified person is available in India.

Recruits obtained in England and selected from candidates who have obtained a recognised chemical qualification, and have undergone one month's training at the London Mint, will be on probation for a period of six months at the Assay Office Laboratory in Calcutta or Bombay.

Recruits obtained in India who have to undergo a course of scientific training in England will be on probation for a period of two years. The period of probation in each case may be extended or shortened at the discretion of the Government of India.

The Mint, Bombay.

Assay Master.—Major W. I. Kennedy-Minards, B.Sc. (Lond.).

Deputy Assay Masters.—I. C. Gupta, M.Sc. (Cal.), F.I.C.; G. C. Mitter, M.Sc.

First Assistant.—U. A. Spence.

Second Assistant.—J. C. McLean.

The Mint, Calcutta.

Assay Master.—Vacant.

Deputy Assay Master.—Vacant.

Assistants.—G. D. L. Durham; R. J. Blyth.

INDIAN INSTITUTE OF SCIENCE, BANGALORE, INDIA.

Director.—M. O. Forster, Ph.D. (Würzburg), D.Sc. (Lond.), F.I.C., F.R.S.

Department of General Chemistry.

Professor.—H. E. Watson, D.Sc. (Lond.), F.I.C.

Lecturer.—S. K. Kulkarni Jatkar, M.Sc. (Bombay).

Assistants.—K. R. Krishnaswami, B.A. (Mysore), D.Sc. (Lond.); M.C. Tumminkatti, Ph.D. (Illinois); M. A. Govindra Rau, M.A. (Madras), Ph.D. (Lond.).

Department of Organic Chemistry.

Assistant Professor.—P. C. Guha, D.Sc. (Calcutta).

Lecturer.—G. C. Chakarvarti, B.A., M.Sc. (Calcutta).

Assistants.—P. Ramaswami Ayyar, M.A. (Madras); B. Sanjiva Rao, B.A. (Madras).

Department of Bio-Chemistry.

Professor.—Vacant.

Lecturer.—V. Subrahmanyan, B.A. (Madras), D.Sc. (Lond.), F.I.C.

Assistants.—C. V. Ramaswami Ayyar, L.Ag. (Madras); V. N. Patwardhan, M.Sc. (Bombay); B. N. Banerji, M.Sc. (Calcutta).

Assistants-in-charge of spike investigation.—M. Sreenivasiah, B.A. (Madras); A. V. Varadaraja Iyengar, B.A. (Madras), A.I.C.

ARMY SCHOOL OF EDUCATION, BELGAUM, BOMBAY.

Chief Instructor (Indian Wing.)—Vacant.

INDIAN MUSEUM, CALCUTTA.

Industrial Section.

Curator.—S. N. Bal, M.Sc.

GEOLOGICAL SURVEY OF INDIA, CALCUTTA.

Chemist.—W. A. K. Christie, B.Sc. (Edin.), Ph.D. (Basel), F.I.C.

INDIAN SCHOOL OF MINES, DHANBAD, E.I.R.

Professor of Chemistry and Assaying and Officiating Principal.—Charles Forrester, A.H.-W.C., F.I.C.

Assistants.—B. B. Niyogi, B.Sc. (Cal.), J. N. Mazumdar, M.Sc. (Dacca).

INDIAN STORES DEPARTMENT.

Metallurgical Inspectorate.

(Headquarters, Office of Metallurgical Inspector, Tatanagar, B.N. Rly.)

Metallurgical Inspector.—E. A. Wraight, A.R.S.M., F.I.C.

Assistant Metallurgical Inspectors.—R. C. Arbery; P. Hinde, B.Met.

Chemist.—B. C. Mukerjee, M.Sc. (Cal.), A.I.C.

Examiners.—L. M. Ghosh; K. P. Banerji; K. G. Mozumdar; M. Mittra; P. C. Ray Choudhuri; S. C. Bose; S. N. Mukerji.

Chemical Assistants.—P. N. Day; M. K. Gupta; R. M. Ghosh, B.Sc.: K. D. Ray, M.Sc.; K. P. Ghosh, B.Sc.; D. P. Sen.

Inspectors of Stores.—R. N. Choudhury, M.Sc. (Cal.), Ph.D. (Lond.); M. N. Goon; T. G. Banerjee, B.Sc. (Lond.), A.R.S.M.; K. Ray, M.Sc. (Birm.).

MEDICAL STORES DEPARTMENT, MADRAS.

Advisory Chemist.—A. F. MacCulloch, M.A., B.Sc. (Edin.), F.I.C.

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GOVERNMENT TEST HOUSE, ALIPORE, CALCUTTA.

Superintendent.—N. Brodie, M.Sc. (Dun.), A.I.C.

Chemist.—N. N. Sen Gupta, M.Sc. (Dun.), A.I.C.

Assistant Chemist.—P. K. Sen, M.Sc.

and 19 laboratory assistants.

DEPARTMENT OF EXPLOSIVES.

Chief Inspector of Explosives.—Norman L. Sheldon, Ph.D. (Heid.), F.I.C.

Inspectors.—P. W. Alloway; A. K. Sen, M.Sc. (Cal.); M. K. Maittra, Ph.D. (Lond.), A.I.C. (*Officiating*).

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INDIAN ORDNANCE DEPARTMENT.

Cordite Factory, Aruvankadu, Nilgiri Hills.

Works Manager.—W. P. Robson, M.A. (Cape), Ph.D. (Halle), A.I.C.

Works Inspection Officer.—H. E. Page, B.Sc. (Lond.), A.I.C.

Assistant Works Managers.—R. Huddart, B.Sc. (Lond.), A.I.C.; A. S. Sinclair, B.Sc.

Inspection Establishments, Central Chemical Laboratories, Rawalpindi.

Chemical Inspector.—E. T. Osborne, M.A. (Oxon.), F.I.C.

Assistant.—Manik Lal Dey, M.Sc. (Cal.), A.I.C.

Second Assistant.—G. V. Joshi, M.Sc. (Bombay).

Chemical Research Department, Rawalpindi.

Controller of Chemical Research.—J. S. Anderson, Ph.D.

Assistant Controller.—L. G. Hemens, B.Sc.

Metal and Steel Factory, Ishapore, Bengal.

Works Inspection Officer.—K. N. Barnes.

Ammunition Factory, Kirkee.

Assistant Works Manager.—F. B. Challans, B.Sc. (Lond.), A.I.C.

Assembly Factory, Rawalpindi.

Officer-in-Charge.—H. J. Garrad, B.Sc. (Lond.), A.I.C.

Inspection Section, Cawnpore.

Assistant Chief Inspector of Stores and Clothing.—C. O. Tattersall, B.Sc. (Lond.), A.R.C.S., A.I.C.

INDIAN STATE RAILWAYS.

Mechanical Department, G.I.P.R., Parel.

Chemist and Metallurgist.—R. K. Thakore, B.Sc. (Bombay), A.R.S.M., A.I.C.

Assistant Chemist and Metallurgist.—H. B. Deshpande, M.Sc.

Laboratory, N.W. Railway, Moghalpura, Punjab.

Chemist and Metallurgist (Officiating).—Norman Hackney, B.Sc. (Lond.), F.I.C.

Chemists.—K. P. Abuvalla; R. G. Bhatwadekar, B.A., B.Sc. (Bom.); T. M. Nair, M. P. Sarathy; M. M. Shaffi.

Bengal-Nagpur Railway, Khargpur, Bengal.

Metallurgical Chemist.—F. E. Morgan, A.R.C.S., A.I.C.

INDIAN TEA ASSOCIATION, CALCUTTA.

Scientific officers are employed in connection with investigations subsidised by Government.

Chief Scientific Officer.—P. H. Carpenter, F.I.C.

Chemists.—H. R. Cooper, B.Sc.; C. R. Harler, B.Sc. (Lond.), F.I.C.; C. J. Harrison, B.Sc. (Birm.), A.I.C.

Entomologist.—E. A. Andrews, B.A. (Cantab.).

Mycologist.—A. C. Tunstall, B.Sc. (Birm.).

Bacteriologist.—S. F. Benton, B.Sc. (Birm.).

INDIAN CENTRAL COTTON COMMITTEE, TECHNOLOGICAL RESEARCH LABORATORY, MATUNGA, BOMBAY.

Director.—A. J. Turner, B.Sc. (Lond.), F.I.C.

Senior Research Chemist.—D. L. Sen, M.Sc. (Bombay), M.Sc.Tech. (Manc.), A.I.C.

UNITED PLANTERS' ASSOCIATION OF S. INDIA, DEVARSHOLA, NILGIRIS.

Tea Scientific Officer.—W. S. Shaw, M.Sc. (Natal), Ph.D. (Birm.). A.I.C.

GOVERNMENT HARNESS AND SADDLERY FACTORY, CAWNPORE.

Chemist.—C. S. Kirby, B.Sc. (Lond.), A.I.C.

GOVERNMENT OF BENGAL.

Chemical Examiner (Calcutta).—T. Crawford Boyd, F.R.C.Sc.I., D.P.H., F.I.C., Major, I.M.S.

Assistant Chemical Examiners and Assistant Surgeons.—H. Sinha, B.A., L.M.S. (Cal.); S. Sen, M.B. (Cal.); H. C. Chakravati, M.B. (Cal.); K. Sinha, M.B. (Cal.); Capt. J. K. Bannerjee, M.B. (Cal.).

AGRICULTURE.

Director of Agriculture to Government of Bengal (Dacca).—R. S. Finlow, C.I.E., B.Sc. (Wales), F.I.C.

Assistant Director of Agriculture and Fibre Expert to the Government of Bengal (Dacca).—K. McLean, B.Sc.

Agricultural Chemist to the Government of Bengal.—M. Carbery, M.C., D.S.O., M.A., B.Sc. (St. Andrews).

Assistants to Agricultural Chemist.—I. B. Chatterjee, L.Ag.; S. C. Rakshit, B.Sc. (Cal.); N. K. Nandy, M.Sc. (Cal.); A. P. Goshttrabihari, M.Sc.

CINCHONA PLANTATIONS AND QUININE FACTORY.

Mungpoo, Riyang, D.H. Rly.

Government Quinologist.—G. E. Shaw, B.Sc. (Lond.), F.I.C.

Assistant Quinologist.—S. C. Sen, B.A. (Cantab.).

MINT, CALCUTTA (*see* p. 223).

CALCUTTA MUNICIPALITY.

Central Laboratory, Corporation Buildings, Calcutta.

Analyst.—T. K. Ghose, B.A., L.M.S.

Assistant Analysts.—C. L. Sen, L.M.S.; R. L. Gupta, L.M.S.; G. N. Mukerjee, B.Sc. (Cal.); S. N. De, L.M.S., D.T.M., D.P.H.

Pulta Waterworks.

Assistant Analyst.—S. N. Mukerjee, B.Sc., M.B., D.T.M.

Hogg Market Milk Laboratory.

Assistant Analysts.—S. N. Mittra, B.Sc., M.B.; K. B. Gupta, M.B.

EDUCATIONAL.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
CALCUTTA ..	The University	Sir P. C. Ray, C.I.E., Ph.D., D.Sc. (Edin. and Dun.); P. C. Mitter, M.A., Ph.D. (Berlin); H. K. Sen, M.A., D.Sc. (Lond.); P. Mookerjee, D.Sc. (Lond.).

	COLLEGES	PROFESSORS AND TEACHERS OF CHEMISTRY.
CALCUTTA	Bangabasi College	G. C. Bose, M.A. (Cal.).
,,	City College	D. Mukerjee, M.A.; P. Sanyal, M.A.; S. Basu, B.A.; J. Bhaumik, M.Sc.; D. Chatterji, B.Sc.
,,	Medical College	T. Crawford Boyd, F.R.C.Sc.I., D.P.H., F.I.C., Major, I.M.S.; B. M. Chakravarti, B.A., L.M.S.; A. Sen, M.B.; S. C. Mukerji, M.Sc.; H. P. Chakravarti, B.Sc.; J. Batabyal, B.Sc.
,,	Presidency College	R. N. Sen, M.A. (Cal.), M.Sc. (Leeds); P. Neogy, M.A., Ph.D. (Cal.); A. T. Moitra, M.A. (Cal.); B. B. Dutta, M.A. (Cal.); H. C. Dutta Gupta, M.A., B.L. (Cal.); S. K. Mozoomdar, M.Sc. (Cal.); N. G. Chakrabarth, M.Sc. (Lucknow). *Assistants.*—G. G. Bysack, M.A. (Cal.); S. L. Mittra, M.A. (Cal.); S. K. Bose, M.Sc. (Cal.).
,,	Ripon College	D. N. Chakraverty, Ph.D. (Berlin).
,,	School of Tropical Medicine and Hygiene	S. Ghosh, M.Sc. (Cal.), D.Sc. (Edin.); N. L. Banerjee, L.M.S., A.I.C.
,,	Scottish Church Collegiate School.	J. C. Hensman, M.A., A.I.C.; Rev. J. Watt, M.A., D.D. (Aberd.); B. C. Dutt, M.A. (Cal.); R. N. Chatterjia, M.Sc. (Cal.); R. N. Das, M.Sc. (Cal.).
,,	St. Xavier's College	Rev. J. Van Neste, S.J.; M. Sinha, B.A. (Cal.)
CHINSURA	Hooghli College	S. C. Mukherjee, M.A., B.Sc. (Cal.); S. C. Ghoshal, M.Sc. (Cal.); T. K. Sur, B.Sc. (Cal.).
DACCA	Dacca Intermediate College	H. Saha, M.A. (Cal.); N. K. Sen, M.A. (Cal.).
,,	Medical College	H. C. Sarkar.
,,	Dacca University	J. C. Ghosh, D.Sc. (Cal.), *Reader* ; A. C. Sirkar, M.A., Ph.D. (Cal.); R. L. De, M.Sc. (Cal.); B. K. Purkayastha, M.Sc. (Cal.); B. N. Shaha, M.Sc. (Cal.); J. C. Sarma, M.Sc. (Cal.); R. K. Chakravarty, M.A. (Cal.); S. K. Basak, B.A. (Cal.); K. P. Basu, M.Sc.; A. N. Kappanna, M.Sc.; P. C. Banerjee, M.Sc.
HOWRAH	Bengal Engineering College, Botanic Gardens	N. N. Sen, M.Sc. (Cal.), A.R.S.M., A.I.C.; K. Chakravarti, M.A. (Cal.); N. Chakravarti, M.Sc. (Cal.).

	COLLEGES.	PROFESSORS AND TEADHERS OF CHEMISTRY.
KRISHNAGAR ..	Krishnagar College	B. Datta, M.A.
RAJSHAHI (Rampur-Boalia)	Rajshahi College	H. Mukherji, M.Sc. (Cal.); K. N. Chowdhuri, M.A. (Cal.); B. B. Adhicary, M.A. (Cal.).

GOVERNMENT OF BOMBAY.

Chemical Analyser to Government.—B. Higham, M.B., B.S. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), J.P., Lt.-Col., I.M.S.

Assistants.—N. J. Vazifdar, L.M.S., F.C.P.S. (Bom.); G. K. Dhurandhar, L.M.S.

EXCISE DEPARTMENT.

Excise Analyst.—A. G. Gokhale, M.A., B.Sc. (Bombay), A.I.C.

AGRICULTURE.

Agricultural Chemist to Government and Professor of Chemistry, Agricultural College (Poona).—D. L. Sahasrabuddhe, M.Ag., M.Sc. (Bom.).

Assistants.—N. V. Kanitkar, M.Ag., B.Sc. (Bom.); D. M. Ranade, B.Ag., B.Sc. (Bom.); V. G. Patwardhan, M.Ag., B.Sc. (Bom.); J. A. Daji, B.Ag., B.Sc. (Bom.); B. H. Patil, B.Ag. (Bom.); B. M. Joshi, M.Sc. (Bom.); G. H. Ghatikar, B.Ag. (Bom.); V. S. Abhyonkar, B.Ag. (Bom.).

MINT (*see* p. 273).

HAFFKINE INSTITUTE, PAREL.

Research Officer.—Miss Maneck Merwanji Mehta, M.A., M.Sc. (Bombay), D.Sc. (Lond.), F.I.C.

EDUCATIONAL.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
AHMEDAHAD ..	Gujarat College ..	M. S. Shah, M.Sc. (Bom.), Ph.D. (Lond.), K. S. Nargud, M.Sc. (Bom.); G. W. Deodhar, M.Sc. (Bom.).
BOMBAY ..	Victoria Jubilee Technical Institute	A. J. Turner, J.P., B.Sc. (Lond.), F.I.C., *Principal and Secretary*; J. G. Mody, M.A. (Bom.); V. B. Chhaya, M.A., B.Sc. (Bom.); M. M. Koppikar, M.A., B.Sc. (Bom.), A.I.C.
" ..	St. Xavier's College	F. J. Sacasa, M.A., M.Sc.; J. F. Caius; R. N. Bhagwat, M.A.; S. K. Chapgar, B.Sc.; V. V. Nadkarni, B.A., B.Sc.
" ..	The University ..	(*No Professorial Staff.*)

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
BOMBAY ..	Wilson College ..	A. R. Normand, M.A., Ph.D. (Edin.); G. M. Ghute, M.A.Sc. (Toronto); A. M. Patel, M.Sc. (Bombay); A. M. Mapadra, B.Sc.
" ..	Royal Institute of Science	A. N. Meldrum, D.Sc. (Aberd.), A.R.C.S.; Mata Prasad, D.Sc. (Benares); S. N. Mehta, M.Sc. (Bom.); N. W. Hirwe, M.Sc. (Bom.); G. V. Jadhav, M.Sc. (Bom.).
JUNAGADH ..	Bahauddin College	V. S. Ghurye, M.A.
KOLHAPUR ..	Rajaram College	S. V. Shah, Ph.D. (Göttingen).

SIND.

Chemical Analyser for Sind (Karachi).—B. Bhujanga Rao, M.B., B.S., B.Hy.

EDUCATIONAL.

KARACHI ..	D. J. Sind College	J. V. Lakhani, M.Sc.
POONA	Fergusson College (State-aided)	G. B. Kolhatker, M.A. (Bom.); M. K. Joshi, M.A. (Bom.); D. D. Karve, M.Sc. (Bom.), Ph.D.
"	Sir Parashurambhaw (State aided) College	V. K. Bhagwat, M.Sc. (Bombay), Ph.D. (Vict.), A.M.C.T., A.I.C.; B. V. Bhide, M.Sc.
"	Government College of Engineering	G. G. Narke, M.A. (Cal.), M.Sc. (Manc.).
"	Government Agricultural College	D. L. Sahasrabuddhe, M.Sc., M.Ag. (Bom.).

GOVERNMENT OF MADRAS.

Chemical Examiner.—Clive Newcomb, M.D. (Oxon.), F.I.C., Lt.-Col. I.M.S.

First Assistant.—M. A. S. Bahadur, B.A., M.D., C.M., Civil Surgeon.

Second Assistant.—T. R. Subramania Ayyar, B.A. (Madras).

MADRAS PREVENTION OF ADULTERATION ACT, 1918.

Public Analyst to the Government of the Madras Presidency and the City of Madras.—Herbert Hawley, M.Sc. (Birm.), F.I.C.

AGRICULTURE.

Government Agricultural Chemist and Head of Chemical Section.—B. Viswa Nath, F.I.C.

Assistant Agricultural Chemist.—K. S. Viswanadha Ayyar, B.A.; P. Venkataramiah, M.A., B.Sc. (Edin.); T. L. Rao, B.A.

Agricultural Bacteriologist.—P. D. Karunakar, M.Sc. (Iowa).

Physical Chemist.—Vacant.

Assistants.—P. A. R. Ayyangar; T. S. Ramasubrahmania Ayyar, B.A.; S. Kasinatha Ayyar, B.A.; G. Ganapathi Ayyar, B.A.; K. Govindan Nair, B.A.; B. S. Narasimha Ayyar, L.Ag.; M. Suryanarayana, B.Sc.; M. R. Balakrishnan, B.A., B.Sc.Ag.; M. S. Raju; T. Rajagopala Ayyangar, B.A.; R. K. Pillai, B.A.; G. K. Chidambara Ayyar, B.A.; P. Satyanarayana, B.A., B.ScAg.; M. Sundaram, B.A.; C. Raghavendrachar, B.A.

Lecturer in Chemistry, Agricultural College.—H. S. Rau, B.Sc. (Allahabad), A.I.C.

Assistant Lecturers.—M. Rajagopala Ayyar, B.A.; C. Narasimhachari, B.A.

CINCHONA DEPARTMENT.

Manufacturing Chemist.—Henry Wheatley, B.Sc. (Lond.), A.I.C.

MADRAS WATERWORKS.

Chemists.—

EDUCATIONAL.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
MADRAS ..	Christian College	E. Barnes, B.Sc. (Lond.); A. Visvanathan, B.A. (Madras), B.Sc. (Bom.).
" ..	Engineering College	M. D. Kini, M.A. (Madras).
" ..	St. Joseph's College	A. Haas; P. C. Ramachandra Aiyar, M.A. (Madras).
" ..	Presidency College	W. Erlam Smith, M.A. (Oxon.); B. B. Dey, D.Sc. (Lond.), F.I.C.; U. Mudlagiri Nayak, M.A. (Madras); M. V. Sitaraman, M.A. (Madras); S. Laksminarayanan, M.A. (Madras).
" ..	Medical College	Clive Newcomb, M.D. (Oxon.), F.I.C., Major, I.M.S.; Azizullah Sahib, B.A. (Madras); H. Kishnan.
TRIVANDRUM (Travancore)	H.H. The Maharajah's College	*Professor.*—K. L. Moudgill, M.A. (Cantab.), D.Sc. (Glas.), F.I.C. *Assistant Professors.* — K. R. Krishna Iyer, M.A. (Madras); K. Sitaram Iyer, M.A. (Madras).
VIZIANAGRAM	H.H. The Maharajah's College	D. N. D. Gupta, M.A., B.L.; M. V. Narashimaswami, B.A.; V. Simhachelam, B.A.; T. Venkatramayya, B.A.

KING INSTITUTE, GUINDY.

Chemist.—

THE PUNJAB.

Chemical Examiner to the Government of the Punjab and N.W. Frontier Province.—D. R. Thomas, M.B., Ch.B. (Edin.), Captain, I.M.S.

Assistant Chemical Examiner to the Government of the Punjab and N.W. Province.—S. M. Hussain, L.M.S.

Assistants to the Chemical Examiner and Assistant Surgeons.—P. U. Ram, M.B., B.S., B.Sc.; S. T. Hussain, L.M.S.; L. S. Ram, M.B., B.S.

Agriculture.

Agricultural Chemist to Government, Professor of Chemistry in the Government College of Agriculture (Lyallpur).—P. E. Lander, M.A. (Cantab.), D.Sc. (Lond.), A.I.C.

Assistant Professors.—S. B. Jagat Singh, M.Sc.; Ch. S. Mohd Khan, M.Sc.

Assistant to the Agricultural Chemist.—R. Narayan, D.Sc. (Lahore).

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Chemist.—B. L. Khuller, M.Sc. (Punjab), A.I.C.

Educational.

	COLLEGES	PROFESSORS AND TEACHERS OF CHEMISTRY
Amritsar	Hindu Sabha College	Mehr Chand, M.Sc. (Punjab); Des Raj, M.Sc. (Punjab).
„	Khalsa College	Narinjan Singh, M.Sc. (Punjab); Kirpal Singh, M.Sc. (Punjab); Ram Singh Ahuja, M.Sc. (Punjab); Narain Singh, M.Sc. (Punjab); Jaginder Singh, M.Sc. (Punjab); Sant Singh, B.Sc. (Punjab).
Bahawalpur	Sadi Egerton College	Mohammad Afzal, M.Sc. (Punjab).
Campbellpur	Government Intermediate College	R. L. Chitkara, M.Sc. (Punjab).
Delhi	Lady Hardinge Medical College	Miss Sosheila Ram, M.A. (Cantab.).
Dharmsala	Government Intermediate College	R. R. Malik, M.Sc. (Punjab); H. C. Teneja, B.Sc. (Punjab).
Ghora gali	Lawrence College	J. T. Jones, B.Sc. (Birm.).
Gujranwala	Guru Nanak Khalsa College	Sher Singh, M.Sc. (Punjab).
Gujrat	Government Intermediate College	Jagan Nath, M.Sc., B.T. (Punjab); K. R. Narang, M.Sc. (Punjab).
Hoshiarpur	Government Intermediate College	Rama Krishna Bahl, M.Sc. (Punjab); Parkash Chandra, M.Sc. (Punjab).
Jammu	Prince of Wales College	M. C. Khosla, M.Sc. (Punjab); Hans Raj Nanda, M.Sc. (Punjab); Raghunath Sawhney, M.Sc. (Punjab).

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
JHANG CITY ..	Government Intermediate College	P. G. Warris, M.Sc. (Punjab); H. B. Luke, M.Sc. (Punjab).
JULLUNDUR CITY	Dayanand Anglo Vedic College	Dev Mittar, M.Sc. (Punjab).

LAHORE. The University of the Punjab.

Professor of Physical Chemistry and Director of the Laboratories.— S. S. Bhatnagar, M.Sc. (Punjab), D.Sc. (Lond.), F.Inst.P.

Professor of Inorganic Chemistry.—H. B. Dunnicliff, M.A. (Cantab.), B.Sc. (Lond.), Sc.D. (Dub.), F.I.C.

Professor of Technical Chemistry and Director, University Technical Chemistry Laboratories.—P. C. Speers, B.Sc. (Princeton).

Reader in Organic Chemistry.—J. N. Ray, M.Sc. (Calcutta), P.H.D., (Manc.).

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LAHORE ..	Central Training College	W. H. F. Armstrong, M.A. (Cantab.); Ghansham Das, B.Sc., B.T. (Punjab).
" ..	Dayal Singh College	P. N. Pandit, M.Sc. (Punjab); R. L. Uberoi, M.Sc. (Punjab).
	Dayanand Anglo Vedic College	Sain Das, M.A. (Calcutta), B.A. (Cantab); Mehr Chand, M.Sc. (Punjab.), M.Sc. Tech. (Boston, U.S.A.; H. C. Mahajan, M.Sc. (Punjab) M. R. Sud, M.Sc. (Punjab); B. D. Jain, M.Sc. (Punjab); N. D. Sarin, M.Sc. (Punjab).
" ..	Forman Christian College	P. C. Speers, B.Sc. (Princeton); N. A. Yajnik, M.A. (Bombay), A.I.C.; E. T. Dean, M.Sc. (Punjab); K. Venkataraman, M.A. (Madras), M.Sc. Tech., Ph.D. (Manc.), A.I.C.; P. N. Mehra, M.Sc. (Punjab); Hans Raj, M.Sc. (Punjab); Mahesh Datt, M.Sc. (Punjab); M. L. Joshi, M.Sc. (Punjab); Ishwar Singh, B.Sc. (Punjab); Mathu Ram, M.Sc. (Punjab); Ram Chandra, M.Sc. (Punjab).
" ..	Government College	*Professor.*—H. B. Dunnicliff, M.A. (Cantab.), B.Sc. (Lond.), Sc.D. (Dub.), F.I.C. *Lecturers.*—K. L. Malhotra, M.Sc. (Punjab); Mahan Singh, M.Sc. (Punjab). *Demonstrator.*— Sardar Mohammad, M.Sc. (Punjab).

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
LAHORE	Islamia College	Munir-ud Din, M.Sc. (Punjab); Abdul Karim, M.Sc. (Alig.); Mohammad Ishaq, B.Sc. (Punjab).
”	Lahore College for Women	Miss S. M. Harrison, M.A. (Oxon.), A.I.C.
”	Punjab Veterinary College	Ghulam Safdar Khan, B.Sc. (Punjab).
”	Sanatan Dharam College	Rama Krishna, M.Sc. (Punjab); Dev Datt Vasudeva, M.Sc. (Punjab).
LUDHIANA	Government Intermediate College	Nihal Singh, M.Sc., B.T. (Punjab); Hardit Singh, B.Sc. (Punjab); F. M. Khan, M.Sc. (Alig).
LYALLPUR	Government Intermediate College	R. B. M. Seth, M.Sc. (Punjab); K. C. Taxali, M.Sc. (Punjab); Amar Singh, M.Sc. (Punjab).
”	Khalsa Intermediate College	Bhan Singh, M.Sc. (Punjab).
”	Punjab Agricultural College	P. E. Lander, M.A. (Cantab.), D.Sc. (Lond.), A.I.C.; Dalip Singh, M.Sc. (Punjab), Ph.D. (Cantab); S. S. Jagat Singh, B.A., M.Sc. (Punjab); Sardar Mohammad Khan, M.Sc. (Punjab); Girdhari Lal, B.Sc. (Punjab).
MOGA	Dayanand Mathra Dass College	Ram Naryan Kapur, M.Sc. (Punjab).
MOGHALPURA	Maclagan Engineering College	S. D. Muzaffar, M.A., M.Sc. (Punjab), Ph.D. (Cantab.); S. J. Kohli, M.Sc. (Punjab); Isaac Daniel.
MULTAN	Government Intermediate College	Sachdev Singh, M.Sc. (Punjab); Hira Lal Anand, M.Sc. (Punjab).
PASRUR	Government Intermediate College	Prem Singh, M.Sc. (Punjab); Sardari Lal Bhatia, D.Sc. (Punjab); M. H. Khan, M.Sc. (Punjab).
PATIALA	Mohindra College	Kashmiri Lal Budhiraja, M.Sc. (Punjab).
PESHAWAR	Islamia College	W. R. Jones, B.Sc. Tech. (Manc.), A.I.C.; Anwar Beg, M.Sc. (Punjab).
RAWALPINDI	Dayanand Anglo Vedic College	Daulat Ram, M.Sc. (Punjab); Chandar Bhan, M.Sc. (Punjab).
”	Gordon College	W. J. Downes, M.Sc. (Pittsburg); A. N. Gupta, M.Sc. (Punjab); D. P. Singh, B.Sc. (Punjab).
ROHTAK	Government Intermediate College	Vidya Sagar Puri, M.Sc. (Punjab), Ph.D. (Lond.).
SIALKOT CITY	Murray College	R. K. Dhawan, M.Sc. (Punjab).

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
SIMLA	Bishop Cotton School and Intermediate College	C. T. Whitman, B.Sc. (Cardiff).
SRINAGAR ..	Sri Partap College	Shyam Lal Dhar, B.Sc. (Punjab).

DELHI.

EDUCATIONAL.

DELHI	The University	B. D. Larvia, B.A. (Oxon.), B.Sc. (Punjab), Ph.D. (Lond.).

UNITED PROVINCES OF AGRA AND OUDH.

Director of Agriculture.—D. N. Chatterji, B.A., B.Sc. (Allahabad), F.I.C.

First Assistant Chemical Examiner and Government Analyst.—B. D. Sastri, A.I.C.

Second Assistant.—M. B. Ray, B.Sc.

AGRICULTURE.

Director of Agriculture.—George Clarke, C.I.E., F.I.C.

Assistants.—H. N. Batham, M.A. (Allahabad); S. C. Bannerjee.

TECHNOLOGICAL.

Principal, Harcourt Butler Technological Institute, Cawnpore.—H. D. H. Drane, Ph.D.

Head of Department of Oil Technology.—J. A. H. Duke.

Head of Department of Leather Technology.—M. B. Hudlikar, M.Sc. (Leeds).

Lecturer in Oil Chemistry.—D. Y. Athawale, M.Sc.

Lecturer in Sugar Technology.—A. R. Khan.

Industrial Chemist to Government of United Provinces and Lecturer in Applied Chemistry.—K. C. Mukherji, M.Sc. (Cal.), A.I.C.

Assistant Research Chemists.—N. G. Chatterji, LL.B., D.Sc. (Allahabad), A.I.C.; H. D. Sen, M.Sc. (Cal.); H. M. Mulany, M.Sc. (Bom.); H. S. Chaturvedi, B.Sc.

	COLLEGES	PROFESSORS AND TEACHERS OF CHEMISTRY.
AGRA	Agra College ..	H. Krall, B.A. (T.C.D.), F.I.C.; B. L. Vaishya, M.Sc. (Allahabad), A.I.C.; J. B. Jha, M.Sc. (Allahabad); C. L. Mital, M.Sc. (Allahabad); P. N. Kathju, M.Sc. (Allahabad); P. Das, B.Sc. (Allahabad); L. P. Saxena, B.Sc. (Allahabad); R. Dayal, M.Sc. (Agra).

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
ALIGARH ..	Muslim University	Lt. M. Haider Khan, M.A. (Cantab.), B.Sc. (Lond. and Allahabad); A. Bakhsh, M.A., B.Sc. (Allahabad); M. A. Zizi, B.Sc. (Allahabad), Ph.D. (Berlin); S. B. Ali, B.Sc. (Allahabad), M.Sc. (Muslim Univ.); O. Farooq, M.Sc. (Muslim Univ.); A. Wali, M.Sc. (Muslim Univ.).
" ..	St. John's College	K. C. Pandya, M.Sc. (Bom.), Ph.D.; N. M. Antani, M.Sc. (Bom.).
ALLAHABAD ..	The University See errata p. 275 1931 Journal	N. R. Dhar, M.Sc. (Cal.), D.ès Sc. (Paris), D.Sc. (Lond.), F.I.C.; A. P. Sircar, D.Sc.; S. C. Dele, M.A. (Allahabad); K. P. Chatterjee.
BENARES ..	Hindu University	M. B. Rane, M.A. (Bom.); S. S. Joshi, M.Sc. (B.H.U.), D.Sc. (Lond.); S. K. Basu, M.Sc. (Allahabad), Ph.D. (Berlin); P. S. Varma, M.Sc. (Cal.); D. N. Banerjea, M.Sc. (B.H.U.); P. N. Roy, M.Sc. (B.H.U.); A. T. Muzumdar, M.Sc. (B.H.U.); K. C. Banerjea M.Sc. (B.H.U.); A. T. Ganguli, M.Sc. (B.H.U.); S. K. Sharma, M.Sc. (B.H.U.). *Industrial Chemistry Section.*—V. Gopalam Iyer, B.A. (Madras), A.I.C.; N. N. Godbole, M.A., B.Sc. (Bom.), Ph.D. (Berlin); Dogar Singh; H. N. Bose, M.Sc. (Cal.); A. N. Ghosh, B.A. (Cal.); K. C. Trigunayat, M.Sc. (B.H.U.); K. D. Gupta.
" ..	Queen's College	C. Prasad, M.A., B.Sc. (Allahabad); P. C. Mukerji, M.Sc. (Allahabad).
CAWNPORE ..	Government School of Dyeing and Printing.	H. B. Shroff, B.Sc.Tech. (Vict.), A.M.S.T., A.I.C., Principal.
" ..	Agricultural College	C. M. Das, B.Sc. (Edin.), Principal.
LUCKNOW ..	The University (Canning College)	P. S. MacMahon, B.Sc. (Oxon.), M.Sc. (Manc.); S. M. Sane, M.A., B.Sc. (Allahabad), Ph.D. (Berlin); B. M. Gupta, M.Sc. (Allahabad), Ph.D. (Lond.), A.I.C.; M. R. Nair, B.A. (Madras); P. L. Asthana, M.Sc. (Allahabad); A. C. Chatterji, D.Sc. (Allahabad).

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
Roorkee	Thomason Civil Engineering College	P. P. Phillips, Ph.D. (Göttingen), F.I.C., Principal; K. L. Bhattacharya, M.Sc. (Allahabad), Lecturer.

CENTRAL PROVINCES AND BERAR.

Chemical Examiner.—D. N. Chatterji, B.A., B.Sc. (Allahabad), F.I.C.

Agriculture.

Agricultural Chemist to Government (Officiating).—A. R. P. Iyer, B.A.
Assistants of Agricultural Chemist.—R. S. Krishnamurthy; R. M. Mishra, M.Sc.
Bacteriological Assistant.—D. V. Bal, L.Ag. (Nagpur).

Agricultural College, Nagpur.

In charge of Chemical Section (Officiating).—E. A. H. Churchhill, B.Sc.; R. N. Kayasth, B.Ag. (Bom.), M.Sc. (Nagpur).

Municipality of Nagpur.

Chemist for Water, Sewage, etc.—S. N. Chatterjee, B.Sc.

Educational.

Indore	Holkar College	S. S. Deshapande, M.Sc. (Allahabad), Ph.D. (Lond.), A.I.C.
Jubbulpore	Government College	T. K. Bakshi, M.A.; G. R. Tamhankar, M.Sc.
Nagpur	Hislop College	V. D. Kale, B.Sc. (Allahabad).
"	Victoria College of Science	R. H. Beckett, B.Sc. (Lond), Principal; S. N. Godbole, M.Sc.; D. V. Chandorkar, M.Sc.

BIHAR AND ORISSA.

Agriculture.

Agricultural Chemist to Government, Bihar and Orissa (Sabour) (Officiating).—M. N. Ghosh, M.A. (Cal.).
Assistants.—G. Srinivsan, B.A. (Madras); B. G. Das, L.Ag.

Educational.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
Bhagalpur	Tej Narain Jubilee College	H. L. Das Gupta, M.A.
Cuttack	Ravenshaw College	A. C. Ganguli, B.A. (Cal.); B. K. Singh, M.A. (Cantab.), Sc.D. (Dub.), F.I.C.
"	Medical School	T. N. Benerjee, M.B. (Cal.); S. N. Mitter, L.M.P.
Hazaribagh	St. Columba's College	H. C. Mukharji, M.A.
Jamshedpur	Technical Institute	W. Saunders, B.Sc. (Lond.), F.I.C.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
MUZAFFARPUR ..	Greer Bhumihar Brahman College	R. K. Basu, M.Sc.
PATNA	Science College ..	K. S. Caldwell, B.Sc. (Wales), Ph.D. (Leipzig), F.I.C.; A. S. Khan, B.Sc. (Cal.), M.Sc. (Vict.), A.I.C.; R. C. Ray, M.Sc. (Cal.), D.Sc. (Lond.), F.I.C.; P. B. Ganguli, M.Sc. (Allahabad), D.Sc. (Lond.); C. B. Ray, M.A. (Cal.); P. Lal, M.Sc. (Allahabad); M. Qamsud Doga, B.A. (Cantab.); S. K. Guha, M.Sc. (Dacca); D. N. Ghosh, M.Sc. (Patna); Nirmalananda Palit, M.Sc. (Cal.); B. Dayal, M.Sc. (Patna); R. C. Tripathi, B.Sc. (Patna); P. C. Sinha, M.Sc. (Patna); M. Husain, B.Sc. (Patna); T. Prahsad, B.Sc. (Patna); A. Majid, B.Sc.(Patna). A. Mokeet, B.Sc. (Patna); S. K. Prasad, B.Sc. (Patna); K. K. Chatterji, B.Sc. (Patna); H. P. Basu Mallik, M.Sc. (Patna).
" ..	Prince of Wales Medical College	K. N. Bagchi, M.B., D.T.M., B.Sc. (Cal.); J. N. Mazumdar, B.Sc. (Cal.).

BURMA.

Chemical Examiner to the Government of Burma.—Lieut.-Col. T. F. Owens, I.M.S.

First Assistant.—L. B. Seal.

Second Assistant.—U. B. San, B.A.

Third Assistant.—U. Tin, B.A.

AGRICULTURE.

Agricultural Chemist to Government.—James Charlton, M.Sc. (Vict.), F.I.C.

Assistants.—S. P. Aiyar, B.A. (Madras); U. Po Shin; U Ba Myint, B.A. (Cal.); M. M. Menon, B.A. (Madras); T. K. Sen, B.Sc. (Cal.); P. Viswanathan, B.A. (Madras).

Forest Chemist (temporary).—B. M. Desai.

ANALYST'S DEPARTMENT, RANGOON.

Municipal Analyst.—D. M. Ganguli, B.A., M.Sc.

HARCOURT BUTLER INSTITUTE OF PUBLIC HEALTH, RANGOON.

Public Analyst to Government of Burma.—E. H. Bunce, F.I.C.

Chemist.—Vacant.

Assistant Chemist and Lecturer in Chemistry.—G. C. Moitra, B.A.

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AGRICULTURAL COLLEGE, MANDALAY.

Professor of Chemistry and Principal.—James Charlton, M.Sc. (Vict.), F.I.C.

Lecturer in Chemistry.—S. P. Aiyar, B.A. (Madras).

UNIVERSITY OF RANGOON.

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Senior Lecturer.—L. J. Goldsworthy, M.A., B.Sc. (Oxon.).

Lecturers.—R. Venkateswaran, M.A. (Madras); U Ba, B.A. (Cal.).

Assistant Lecturer.—U Po Tha, M.Sc. (Rangoon).

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Demonstrators.—Chit Thoung, M.Sc. (Lond.), A.R.C.S.; Miss Kamakshi, M.Sc. (Rangoon); A. Thaw, B.Sc. (Rangoon).

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Demonstrators.—Attar Singh, B.Sc. (Rangoon).

INTERMEDIATE COLLEGE, MANDALAY.

Lecturer in Chemistry.—B. K. Pal, M.Sc. (Cal.).

INDIAN STATES.

HYDERABAD.

HYDERABAD (Deccan) ..	Osmania University	C. B. Ali, B.Sc. (Allahabad).

INDUSTRIAL LABORATORY.

Chief Chemist.—Q. Habib Hassan.

MYSORE.

Agricultural Chemist to Government of Mysore.—B. N. Iyengar, B.A. (Madras), Ph.D. (Göttingen).

Assistant Chemists.—N. Sampathiengar; K. B. Rau, B.A. (Madras); B. S. Rau, M.A. (Madras); M. R. A. Iyer, B.A. (Madras); E. R. Tirumalachar, B.A. (Madras).

Analysts.—M. Subbaya, B.A. (Mysore); S. R. Sastry; B. Dasappa, B.A. (Mysore).

Industrial Chemist to the Government of Mysore.—S. G. Sastry, B.A. (Madras), M.Sc. (Lond.).

Chemical Examiner to the Government of Mysore.—M. Dominick, M.R.C.S., D.P.H.

CENTRAL COLLEGE, MYSORE UNIVERSITY, BANGALORE.

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Professor of Organic Chemistry.—B. L. Manjunath, B.A. (Madras), M.Sc. (Lond.), D.Phil. (Oxon.).

Assistant Professors of Chemistry.—C. Srikantia, B.A. (Madras), D.Sc. Tech. (Zurich); M. Sesha Iyengar, M.A. (Madras); H. Subba Jvis, M.Sc. (Calcutta).

Lecturers.—M. P. Venkatorama Iyer, M.Sc. (Calcutta); K. S. Gururaja Doss, B.Sc. (Mysore), and K. Subba Rao, B.Sc. (Mysore).

Government Soap Factory.

Industrial Chemist-in-Charge.—S. G. Sastry, B.A. (Madras), M.Sc. (Lond.).

BARODA.

Baroda College.

Senior Professor of Chemistry and Director of the Chemistry Dept., and Industrial Chemist to the Government of Baroda.—K. G. Naik, M.A., B.Sc. (Bom.), D.Sc. (Lond.), D.I.C., F.I.C.

Junior Professor of Chemistry.—M. D. Avasare, B.A., M.Sc. (Bom.), Ph.D. (Lond.).

BHOPAL.

State Laboratory.

Chemist.—G. W. Douglas.

RAJKOT (Kathiawar).

State Research Laboratory.

Chemist.—G. A. Raman.

ASSAM.

Educational.

	COLLEGES.	PROFESSORS AND TEACHERS OF CHEMISTRY.
Gauhati ..	Cotton College ..	C. Lal De, M.A. (Cal.), Professor; A. K. Das, M.A., B.Sc. (Cal.); S. C. Chatterjee, M.Sc.

CEYLON

See errata p. 275 1931 Journal

The principal appointments are made by the Secretary of State for the Colonies, London, but assistants are appointed on the recommendation of the heads of Departments.

The duties of the Government Agricultural Chemist include chemical work connected with agriculture, soils, crops, manures, oils, etc., giving advice on cultivation and on the manufacture of staple products.

The Rubber Research Chemist is concerned with the investigation of the rubber tree, rubber, and its manufacture.

The Government Analyst's work is largely connected with legal cases and the Customs, and involves the examination of milk, water, liquors, and enquiries connected with cases of suspected poisoning.

Agricultural Chemist and City Analyst.—A. Bruce, B.Sc. (Edin.), F.I.C.

Assistant Chemist.—A. E. Purves, B.Sc. (Edin.), F.I.C.

See errata p. 276 1931 Journal

Department of Agriculture.

Government Agricultural Chemist.—A. W. R. Joachim, B.Sc. (Lond.), F.I.C.

Government Analyst's Department, Colombo.

Government Analyst.—C. T. Symons, B.A. (Oxon.), F.I.C.

Assistant Government Analyst.—J. V. Collins, M.A., M.Sc. (Dub.), F.I.C. see errata p. 276 1931 Journal

Assistant to Government Analyst.—W. R. Chanmugam, A.I.C.

Sub-Assistants.—M. Parthasarathy; A. Oorloff.

University College, Colombo.

Professor of Chemistry.—W. N. Rae, M.A. (Cantab.), F.I.C.

Lecturer in Chemistry.—J. P. C. Chandrasena, Ph.D. (Lond.), A.I.C.

Assistant Lecturer.—E. L. Fonseka, B.Sc. (Lond.).

Demonstrator.—L. D. Smith, B.A., B.Sc. (Lond.).

Royal College, Colombo.

Lecturer in Chemistry.—H. J. Wijesinghe.

Assistants.—C. Samarasinghe, B.Sc. (Lond.); V. Chorley, B.A. (Madras).

Rubber Research Scheme.

Rubber Research Chemist.—T. E. H. O'Brien, M.Sc. (Liv.), A.I.C.

Tea Research Institute.

Director.—R. V. Norris, M.Sc. (Manc.), D.Sc. (Lond.), F.I.C.

Agricultural Chemist.—T. Eden, M.Sc. (Manc.), A.I.C.

Biochemist.—D. I. Evans, B.Sc. (Wales), Ph.D. (Lond.).

Coconut Research Scheme.

Director.—W. E. de B. Diamond, M.A. (Cantab.), Ph.D. (Lond.).

Trinity College, Kandy.

Lecturers in Chemistry.—K. R. Pilcher, M.A. (Oxon.); C. E. Simithraaratchy, B.Sc. (Lond.), A.R.C.S.

MALAYA.

British Malaya includes (*a*) the Straits Settlements (Singapore, Penang, Province Wellesley, Malacca and the Dindings); (*b*) the Federated Malay States (Perak, Selangor, Negri Sembilan and Pahang); and (*c*) the Unfederated Malay States (Johore, Kedah, Perlis, Kelantan and Trengganu).

The Straits Settlements constitute a Crown Colony, and all appointments in the service of the Colony are made by the Governor, with the approval of the Secretary of State. Appointments under Municipalities are made by the Municipal Commissioners, but senior appointments, including those of analysts, must be sanctioned by the Governor and the Secretary of State.

The Federated Malay States and the Unfederated Malay States are British protectorates, in which all appointments are made by the High Commissioner on instructions from and/or with the approval of the Secretary of State.

STRAITS SETTLEMENTS.

Government Analyst's Department, Singapore.

The work carried out by this Department includes the inspection and testing of petroleum and explosives, all the chemical work connected with the Monopolies' Department, the examination of Police Court exhibits, such as poisons, counterfeit coins, forged currency notes, etc., toxicological examinations, analyses under the Food and Drugs and Deleterious Drugs Ordinances and general analytical and consultative work for the Governments of the Colony and Unfederated Malay States.

Government Analyst, Straits Settlements.—J. C. Cowap, B.Sc. (Vict.), F.I.C.

Assistant Government Analysts.—Morris Jamieson, B.Sc. (Lond.), A.R.C.S., A.I.C.; A. C. Brooks, A.R.C.Sc.I., A.I.C.; F. H. Geake, M.Sc. (Bris.), A.I.C.; C. L. Southall, B.Sc. (Birm.), A.I.C.

Deputy Government Analyst.—J. W. Haddon, B.Sc. (Vict.), F.I.C.

Municipality of Singapore.

Health Department.

Municipal Analyst.—R. E. Willgress, B.Sc. (Lond.), A.R.C.S., A.I.C.

Educational.

King Edward VII College of Medicine, Singapore.

Professor of Biochemistry.—J. L. Rosedale, M.A. (Oxon.), Ph.D. (Bonn), D.Sc. (Aberd.), F.I.C.

FEDERATED MALAY STATES.

Department of Agriculture, Kuala Lumpur.

The Department of Agriculture is a combined Department for the Federated Malay States and the Colony of the Straits Settlements. Investigations are also carried out for the State of Johore. The Government Agricultural Chemist undertakes investigations for the Department of Agriculture, for estates in the F.M.S., S.S. and Johore, and various industrial chemical investigations for other Government Departments.

Agricultural Chemist.—B. J. Eaton, O.B.E., F.I.C. (Seconded to the Rubber Research Institute).

Assistant Agricultural Chemists.—C. D. V. Georgi, O.B.E., B.Sc. (Lond.), F.I.C. (Acting Agricultural Chemist); V. R. Greenstreet, A.C.G.F.C., A.I.C.; J. H. Dennett, B.Sc. (Birm.) (Soils Chemist); F. C. Cooke, B.Sc., A.R.C.S. (Copra Research Chemist); R. G. H. Wilshaw, B.A., B.Sc.

Assistant Analyst.—G. L. Teik, B.A.

Forests Department, Kuala Lumpur.

The Forests Department controls the Forests of the Federated Malay States, the Straits Settlements and the Unfederated Malay States.

The administrative centre is at Kuala Lumpur, and the Research Institute at Kepong.

The Forest Chemist investigates forest products and problems connected with their utilisation.

Forest Chemist.—T. A. Buckley, Ph.D. (Sheffield), A.I.C.

Geological Department, Batu Gajah.

The Chemist of the Geological Department undertakes all mineral analyses and assays for the department, and also investigations of minerals for private individuals and official checks on assays.

Chemist.—J. C. Shenton.

Institute for Medical Research, Kuala Lumpur.

The Chemical Division undertakes investigations for the Medical, Health, Police, and other departments of the Federated Malay States.

Chief Chemist.—R. W. Blair, A.R.C.Sc.I., F.I.C.

Chemists.—J. Shelton, F.I.C.; F. E. Byron, Ph.D. (Liv.), A.I.C.; I. A. Simpson, Ph.D. (Liv.), A.I.C.

The Rubber Research Institute of Malaya Inc., Kuala Lumpur.

The Rubber Research Institute of Malaya was incorporated by F.M.S. Enactment No. 8 of 1925 and was inaugurated in 1926.

The funds of the Institute are provided by means of a cess on raw rubber exported from Malaya, collected by the Government.

The Institute is governed by a Board consisting of certain officials nominated by the Government and non-officials representing various organisations of the rubber planting community, such as the Rubber Growers' Association, the Planters' Association of Malaya and the Asiatic Planters' Association.

The Institute is responsible for all research and advisory work in relation to the cultivation of rubber trees and preparation of raw rubber in the Straits Settlements, Federated Malay States and Unfederated Malay States.

Acting Director.—B. J. Eaton, O.B.E., F.I.C.

Heads of Chemical Division.—B. J. Eaton, O.B.E., F.I.C.; R. O. Bishop, M.B.E., F.I.C. (*Acting*).

Chemist.—R. G. Fullerton, M.A., B.Sc. (Aberd.), A.I.C.

Biochemist.—E. Rhodes, Ph.D., (Leeds).

Assistant Chemist.—K. C. Sekar, B.A. (Madras).

Bacteriologist.—A. S. Corbet, Ph.D. (Lond.), A.I.C.

Soils Chemist, Soils Division.—C. F. Flint, Ph.D., B.Sc. (Lond.), A.R.C.S., A.I.C.

Assistant Soils Chemist.—K. S. Pillai, B.A. (Madras).

Trade and Customs Department, Kuala Lumpur.

Chemist.—H. Marsden, B.Sc. (Manc.), A.I.C.

HONGKONG.

Government Laboratory.

(*Appointed by the Colonial Office, London.*)

Government Analyst.—E. R. Dovey, A.R.C.S., F.I.C.

First Assistant Analyst.—O. F. Lubatti, Chem.Doc. (Turin).

Second Assistant Analyst.—V. C.B ranson, B.Sc. (Lond.), A.R.C.S., A.I.C.

Government Monopoly Analyst.—H. A. Taylor, F.I.C.

EDUCATIONAL.

THE UNIVERSITY.

(*Appointed by the Council of the University.*)

Professor of Chemistry.—G. T. Byrne, M.Sc. (Manc.), A.I.C.

Lecturer.—R. Ashton Hill, M.Sc. (Liv.), A.I.C.

Demonstrator.—C. C. Lam.

Hongkong Technical Institute.

Lecturer.—H. G. Wallington, B.A. (Cantab.).

Kowloon Technical Institute.

Lecturer.—T. R. Rowell, B.Sc. (Liv.).

WEIHAIWEI.

The Government of this Territory is advised on chemical matters by the Chemists of the Municipal Laboratory of Shanghai and by the Government Analyst of Hongkong.

SHANGHAI, CHINA.

Chemists are employed by the Shanghai Municipal Council, an elected body responsible for the administration of the International Settlement, in the following departments of the Municipal Service.

PUBLIC HEALTH DEPARTMENT CHEMICAL LABORATORY.

The duties are in many respects similar to those of a Public Analyst in Great Britain and include the analysis of foods, drugs, milk and water; also medico-legal, biochemical and other investigations.

Chief Analyst.—F. G. C. Walker, M.C., F.I.C.

Assistant Analyst.—E. O. Wilson.

SEWAGE TREATMENT AND DISPOSAL.

The Chief Sanitation Chemist was appointed in 1920 to advise the Council, in conjunction with the Commissioner of Public Health, and Commissioner of Public Works, on all matters relating to Water Supply and Sewage Disposal, more especially as to the means (including the design and control of Sewage Treatment Works) to be adopted to prevent avoidable pollution of the Whangpoo River and its watershed, the source of the public water supplies of the Settlement and adjoining communities.

Chief Sanitation Chemist.—Percy Gaunt, F.I.C.

Assistant Sanitation Chemist.—W. E. Abbott, M.Sc. (Lond.), A.R.C.Sc.I., A.I.C.

Africa.

WEST AFRICA.

NIGERIA.

Government Laboratory, Lagos.

The investigations undertaken at the Laboratory include the examination of samples submitted by the various Departments, such as Public Works, Customs, Medical, Railway, and Police, in addition to research on problems concerning the development of the Colony and Protectorate.

Government Analyst.—A. B. Hobson, M.Sc. (Vict.), A.I.C.

Assistant Government Analyst.—R. K. Hardy, B.A. (Oxon.), A.I.C.

Water Examiner.—A. W. Burtt, M.Sc. (Birm.), F.I.C.

Agricultural Department, Ibadan.

Senior Agricultural Chemist.—C. H. Wright, M.A. (Cantab.), F.I.C.

Agricultural Chemists.—K. T. Hartley, M.A., B.Sc. (Oxon.), A.I.C.; M. Greenwood, M.Sc. (Manc.); D. Manlove, B.Sc. (Lond.), A.R.C.S., A.I.C.; W. A. Watson, B.Sc. (Edin.).

See addenda
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THE GOLD COAST COLONY.

Department of Agriculture.

Agricultural Chemists.—R. Coull, B.Sc. (Edin.); vacant.

Medical Department.

Chemists.—R. Simmons, F.I.C.; R. W. Clarke, F.I.C.

SIERRA LEONE.

Agricultural Chemist in Charge of Division of Research.—F. J. Martin, M.A., Ph.D. (Cantab.), F.I.C.

Assistant.—H. C. Doyne, M.A. (Oxon.), A.I.C.

Educational.

Bo....School for the Sons of Chiefs. C. P. Ellis, B.Sc. (Lond.), A.I.C.

EAST AFRICA.

KENYA COLONY AND PROTECTORATE.

Chemical Research Department, Nairobi.

The department is responsible for chemical services required by the Medical, Police, Public Works and all other departments of Government, and by the Uganda Railway.

Toxicological investigations and other matters of importance are also undertaken for the Governments of the adjacent territories of Uganda and Tanganyika.

The department, in addition to providing chemical services, has its own programme of research directed to the investigation of the natural resources of the Colony, particularly as regards its soils and climatic conditions and the effects of these upon economic plants.

There is no Food and Drugs Act, but action in the matter of adulteration is taken under a Health Act, Township By-laws, and the Indian Penal Code.

The Director is the Officer generally responsible for the administration of the Industrial Alcohol Ordinance.

Government Analyst.—M. H. Fox, B.Sc. (Wales), A.I.C.

AGRICULTURAL DEPARTMENT, SCOTT LABORATORIES, KABETE.

Agricultural Chemist.—V. A. Beckley, M.C., M.A. (Cantab.), A.I.C.

NYASALAND PROTECTORATE.

Agriculture.

Agricultural Chemist.—A. J. W. Hornby, M.B.E., B.Sc. (Birm.), A.I.C.

TANGANYIKA TERRITORY.

EAST AFRICAN AGRICULTURAL RESEARCH STATION, AMANI.

Soil Chemist.—Geoffrey Milne, M.Sc. (Leeds), F.I.C.

Biochemist.—R. R. Le G. Worsley, B.Sc., Ph.D., A.R.C.S.

GEOLOGICAL SURVEY, DODOMA.

Chemist and Petrologist.—Frank Oates, M.B.E., B.Sc. (Lond.), A.R.S.M., A.I.C.

Laboratory Assistant.—W. E. Calton, B.A. (Cantab.).

UGANDA PROTECTORATE.

Chemist and Petrologist.—W. C. Simmons, B.Sc. (Lond.), A.R.C.S.

Assistant Chemist and Petrologist.—A. W. Groves, Ph.D. (Lond.),

Agricultural Chemist.—W. S. Martin, Ph.D. (Lond.), A.R.C.S., A.I.C.

MEDICAL RESEARCH LABORATORY, ENTEBBE.

Analytical Chemist.—E. C. Haddon, A.I.C.

ZANZIBAR PROTECTORATE.

All appointments under the Government of H.H. the Sultan of Zanzibar are made by the Secretary of State for the Colonies.

The Chemical Branch of the Department of Agriculture is responsible for chemical services required by the Agricultural, Medical, Police, Customs, and other Government departments.

Director of Agriculture and Government Chemist.—Vincent H. Kirkham, B.Sc. (Lond.), Dip.Agric. (Cantab.), F.I.C.

Assistant Government Chemist.—L. W. Raymond, B.A., B.Sc. (Lond.), A.R.C.S., A.I.C.

MAURITIUS AND DEPENDENCIES.

DEPARTMENT OF AGRICULTURE.

Duties include performance of analyses for planters, advice in relation to agricultural chemical problems on estates and technical problems in Sugar Factories, the carrying out of research and teaching in the Mauritius College of Agriculture.

**Chemist and Lecturer in Chemistry in College of Agriculture.*—R. Lincoln, B.A. (Cantab.) (*Acting*).

**Assistant Chemist.*—F. Berchon (*Acting*).

**Scientific Assistant.*—R. Rivalland.

**Sugar Technologist.*—L. Baissac.

Assistant Sugar Technolgoist.—R. Avice, A.R.T.C.

SUGAR RESEARCH STATION.

†*Biochemist.*—N. Craig, M.Sc. (Dunelm).

**Assistant.*—P. Halais.

BACTERIOLOGICAL LABORATORY.

Duties include foods and drugs analyses and control, medico-legal investigations and bacteriological work for Government Hospitals and private practitioners.

**Director and Government Analyst.*—L. G. Barbeau, M.B., D.P.H.

Assistant Director.—L. Masson (*Acting*).

**Assistants.*—L. Webb, R. Avice du Buisson, A. Nemorin.

* Appointed by the Governor of Mauritius with the approval of the Secretary of State for the Colonies.

BOARD OF ROSE-HILL AND BEAU-BASSIN.

Duties include milk control for the towns of Rose-Hill and Beau-Bassin.

Chemist.—P. de Sornay (appointed by the Board).

BOARD OF COMMISSIONERS FOR CUREPIPE.

Duties include milk control for town of Curepipe.

Chemist.—P. de Sornay (appointed by the Board).

EDUCATION DEPARTMENT—ROYAL COLLEGE, CUREPIPE.

Duties include teaching Chemistry to pupils in the Royal College of Mauritius.

**Senior Science Master.*—R. E. Vaughan, B.Sc. (Lond.), A.R.C.S., A.I.C.

**Science Master.*—R. Bacon, B.A. (Cantab.).

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* Appointed by the Governor of Mauritius with the approval of the Secretary of State for the Colonies.

† Appointed by the Governor of Mauritius in co-operation with the Empire Marketing Board.

UNION OF SOUTH AFRICA.

The chemical work of the Government is now consolidated under the Department of Agriculture.

DEPARTMENT OF AGRICULTURE.

DIVISION OF CHEMISTRY (Headquarters in Pretoria).

Chief of Division.—St. Clair O. Sinclair, M.A. (Cape), D.Sc. (Stell.), F.I.C.*†‡§

CHEMICAL LABORATORIES, PRETORIA.

Senior Research Chemist.—J. P. van Zyl, B.A. (Cape), Ph.D. (Göttingen).*

Senior Chemist.—D. C. Crawford, M.A., B.Sc., B.Sc.Agric. (Aberd.).

Chemists.—D. J. R. van Wyk, B.A. (Cape), M.Sc. (S.A.)*†; C. R. van der Merwe, B.A. (Cape), M.Sc. (S.A.)*; J. V. Cutler, M.Sc. (Manc. and Illinois)*; F. J. de Villiers, B.A. (Cape), M.Sc. (Calif.), Ph.D. (Cornell), D.Sc. (S.A.); J. L. Steenkamp, M.Sc. (Stell.), D.Phil. (Oxon.), A.I.C.; P. A. E. Kamerman, M.Sc. (S.A.); J. van Garderen, M.Sc. (Stell.); R. B. Borcherds, B.A. (Cape); W. S. Mysurgh, M.Sc. (Stell.); P. A. Louw, B.Sc. (Stell.).

Chemists on Contract.—J. V. Nel, M.Sc. (S.A.); D. G. Wessels, M.Sc. (Stell.); H. P. Meyer, M.Sc. (Stell.); F. Brauns, B.Sc., B.Sc.Agric. (Stell.); E. Fischer, B.Sc. (Stell.); T. Spence, B.Sc. (S.A.); F. R. Dashwood, B.Sc. (S.A.); E. J. Greenstein, M.Sc.Agric. (Stell.).

First Grade Technical Assistant.—H. F. L. Bischoff.*†

Second Grade Technical Assistants.—E. R. Orchard, B.Sc.Agric. (Stell.) (*Temporary*); H. K. Klintworth, B.Sc. (S.A.); L. Kibel.

Second Grade Technical Assistants on Contract.—G. D. Louw, B.Sc. (Stell.); G. Murray, B.Sc. (S.A.); I. L. Worrall, B.Sc.Agric. (Rutgers); J. G. Brevis; C. P. Naude, M.Sc. (S.A.); W. B. Goldschmidt, B.Sc. (S.A.).

Third Grade Technical Assistant.—C. J. R. du Toit.

GOVERNMENT CHEMICAL LABORATORIES, JOHANNESBURG.

Government Analyst.—J. McCrae, Ph.D. (Heid.), F.I.C.*‡§

Senior Chemists.—J. S. Jamieson, F.I.C.‡§; J. Lewis, M.A., D.Sc. (Cape).‡§

Chemists.—H. G. Weall, F.I.C‡.§; W. H. Allen, M.A. (Cantab.).§

First Grade Technical Assistant.—W. Colledge‡§; C. F. Lindemann, B.Sc. (S.A.).‡§

Second Grade Technical Assistants.—F. J. Taylor§; L. I. Goldblatt, B.Sc. (S.A.).

*** Fertilisers, Farm Foods, and Pest Remedies Act (No. 21 of 1917).**

† Dairy Industry Act (No. 16 of 1918).

‡ Food, Drugs and Disinfectants Act (No. 13 of 1929).

§ Wine, Spirits and Vinegar Act (No. 15 of 1913).

Government Chemical Laboratories, Cape Town.

Senior Chemist.—B. de C. Marchand, B.A. (Cape), D.Sc. (Edin.),*†‡§

Chemists.—G. F. Britten, B.A. (Cape), M.Sc. (S.A.), A.I.C. †‡§; P. R. v.d. R. Copeman, B.A. (Cape), D.Sc. (Edin.).*; R. A. Page, M.A. (Cape) ‡; L. Denis Nathan, Ph.D. (Cape), A.I.C. ‡; B. W. Marloth, B.A. (Cape), Ph.D. (Munich), A.I.C.; R. J. Kruger, B.A. (Cape), A.I.C.‡.

First Grade Technical Assistants.—J. Hawken‡§; J. W. R. Thomas§; W. J. Copenhagen.

Second Grade Technical Assistant.—F. J. Dillman.*

Third Grade Technical Assistants.—A. P. Roos; G. A. H. McLean.

Division of Agricultural Education and Extension.

	COLLEGES	LECTURERS.
Cedara (Natal)	School of Agriculture	C. O. Williams, B.Sc. (Lond.), A.R.C.S.*†; A. J. Taylor, B.A. (Cape), M.Sc. (S.A.), A.I.C.*†; F. N. Battenhausen, M.A., Ph.D.*†
Glen (O.F.S.)	,,	J. C. Fick, Ph.D.; J. C. Bodenstein, B.Sc.
Grootfontein (Cape)	,,	F. J. van der Spuy, B.Sc.Agric. (Stell.), Ph.D.; U. W. Schmidt, B.Sc.; H. A. J. Stead, B.Sc. (S.A.).
Potchefstroom (Transvaal)	,,	H. H. Cornell, B.A. (Cape), M.Sc. (S.A.)*; F. E. A. Leibbrandt, M.A. (Cape); N. J. Viljoen, M.Sc. (S.A.)

Division of Veterinary Services and Animal Industry.

Contract Chemist.—A. I. Malan, M.Sc.

Research Officers.—H. Graf, B.V.Sc.; J. W. Greenewald, M.Sc.

Technical Assistant.—J. S. Otto, M.Sc.

Chemists (Temporary).—S. W. D. van der Lingen, M.Sc.; W. Steyn, M.Sc.

Technical Assistant.—S. D. Roussouw, B.Sc.

Laboratory Assistants.—P. Hammersma, B.Sc.; E. Haumann; P. N. H. Hugo.

South African Railways and Harbours Administration.

Railway Chemist.—Lt.-Col. J. G. Rose, M.C., D.S.O.

Borough Chemists.

Borough Analyst, Pretoria.—M. Lundie.

Borough Analysts, Durban.—A. A. Harding-Kloot, B.Sc. (Lond.), F.I.C.‡; W. A. Martin, B.Sc. (S.A.), A.I.C.‡

Natal Sugar Experiment Station, Mount Edgecombe.

Director.—H. H. Dodds, M.Sc. (Manc.), M.S. (Louisiana), A.I.C.

CORPORATION OF THE CITY OF CAPETOWN.

Chemist and Manager, Sewage Works, Chief Chemist, City Engineer's Dept.—E. H. Croghan, M.A. (Cantab.), F.I.C.

ROYAL MINT, PRETORIA.

Assayer.—C. R. Robson, B.Sc. (Lond.), A.I.C.

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* Fertilisers, Farm Foods, and Pest Remedies Act (No. 21 of 1917).

† Dairy Industry Act (No. 16 of 1918).

‡ Food, Drugs and Disinfectants Act (No. 13 of 1929).

§ Wine, Spirits and Vinegar Act (No. 15 of 1913).

DEPARTMENT OF MINES AND INDUSTRIES, PRETORIA.

Chief Inspector of Explosives.—W. B. Jackson, M.Sc.
Inspector of Explosives.—H. Fielden, B.Sc. (Leeds), A.I.C.
Technical Adviser to Board of Trade and Industries.—V. Bosman, M.A. (Cape), Ph.D. (Illinois), A.I.C.

TRANSVAAL CHAMBER OF MINES, JOHANNESBURG.

DUST SAMPLING LABORATORIES.

These Laboratories were instituted in 1914 in connection with the Prevention of Miners' Phthisis.

Under the Mining Regulations of the Union of South Africa, samples have to be taken in each mine to determine the amount of dust present in the air.

The Chamber of Mines employs a staff of Inspectors who visit the mines and check the work of the Mine Dust Inspectors.

The samples of dust are analysed in a central laboratory, where research work is also carried out.

STANDING COMMITTEE ON DUST SAMPLING.

F. G. A. Roberts (Chairman); J. Boyd, A.R.T.C., F.I.C.; G. R. Heywood, A.R.S.M.; H. R. Hill, B.Sc.; A. Mavrogordato, M.A., M.R.C.S., L.R.C.P.; A. E. Payne, A.R.S.M.; Walter Scott, A.R.T.C.

Secretary and Chief Chemist.—A. F. McEwen.*
Senior Chemist.—G. de R. Thompson.*
Assistant Chemists.—J. Lawrie*; H. G. Price; D. Denman.
Inspectors.—J. Buist*; V. Langkilde; A. N. Stuart.

* Holders of Certificates of competency as assayers, granted by the Mines Department of the Union.

DEPARTMENT OF EDUCATION

UNIVERSITY OF CAPE TOWN.*

(With which is incorporated the South African College.)

Professor of Inorganic Chemistry.—J. Smeath Thomas, D.Sc. (Liv.), F.I.C.
Professor of Organic Chemistry.—H. Tietz, M.A. (Cape), M.A., Ph.D. (Berlin).
Professor of Physical Chemistry.—E. Newbery, D.Sc. (Vict.), F.I.C.
Professor of Biochemistry.—E. S. Edie, M.A., B.Sc. (Edin.).
Senior Lecturer in Physiological Chemistry.—L. P. Bosman, B.A. (Cape), Ph.D. (Edin.), A.I.C.
Lecturers in Chemistry.—W. Pugh, B.Sc. (Lond.), Ph.D. (Cape), A.I.C.; J. C. Vogel, D.Sc. (S.A.), Dipl.Ing. (Karlsruhe), A.I.C.
Demonstrator.—W. L. Ferguson, B.A. (Cape).

University of South Africa.*

(Comprising: Transvaal University College, Natal University College, Grey University College, Rhodes University College, Potchefstroom University College, and Huguenot University College.)

	COLLEGES.	PROFESSORS AND TEACHERS.
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Charge de cours.—(Chimie génèrale) Paul Cartier; R. Barré; G. Delorme.

Faculté de Chirurgie Dentaire.

Professeur Agrégé.—Georges Baril (Chimie génèrale et chimie physiologique).

Ecole de Médécine Veterinaire.

Professeur agrégé de Chimie et de Physiologie.—H. M. Nagant.
Chimie Alimentaire et inspection du lait.—R. Mayotte; A. Leduc (Chimie analytique).

Ecole de Pharmacie.

Professeurs de Chimie.—A. J. Laurence (Chimie biologique et pharmacie chimique); H. Lanctot (chimie analytique); J. E. Flahaut (chimie minérale, organique et physique).
Professeurs agrégés.—R. Barré (chargé de cours en chimie analytique); H. Lalonde (assistant en chimie analytique).

Ecole Polytechnique.

Chimie générale.—Professeur.—J. E. Flahaut. *Démonstrateur.*—A. De Passillé.
Chimie industrielle.—Professeur.—L. Bourgoin.
Agrégés.—P. Le Comte; P. Riou.
Electro-chimie et electro-métallurgie.—Professeur.—A. Villeneuve.
Docimasie.—Professeur agrégé.—O. Roland.

Institut Agricole D'Oka.

Professeur de Chimie.—H. M. Nagant.
Assistant Professeur.—A. Leduc.

Ecole des Hautes Etudes Commerciales.

Professeur agrégé de Chimie.—P. Riou.
Chargé de Cours en Chimie.—G. Delorme.

Ecole Technique de Montreal.

Professor of Chemistry.—H. G. Cinq-Mars; H. E. Tanner.

Ecole Technique de Quebec.

Professor of Chemistry.—M. Koetz.

Ecole Technique de Hull.

Professor of Chemistry.—E. N. Gougeon.

Bishop's University, Lennoxville, Quebec.

Professor of Chemistry.—A. L. Kuehner, M.A. (Queen's).
Assistant Professor of Chemistry.—M. Howe, B.A. (B.C.), M.Sc. (McGill).

NOVA SCOTIA AND CAPE BRETON ISLAND.

Dalhousie University, Halifax.

Appointed on the nomination of the Board of Governors of the College, a body appointed by the Governor in Council (N.S.).

Research Professor of Chemistry.—D. McIntosh, D.Sc. (McGill), A.B. (Dalhousie).
McLeod Professor of Chemistry.—C. B. Nickerson, M.A. (Clark Univ.).
Professor of Biochemistry.—E. G. Young, B.A. (McGill), Ph.D. (Cantab.).
Assistant Professor.—H. S. King, A.B., Ph.D. (Harvard).
Instructor.—E. W. Todd, B.A.

Acadia University, Wolfville, N.S.

Professor of Chemistry.—D. U. Hill, M.A., Ph.D. (Yale).

Department of Technical Education.

Director.—F. H. Sexton, D.Sc., LL.D.

Nova Scotia Technical College.

Professor of Mining.—A. E. Flynn, A.R.S.M.
Professor of Metallurgy.—G. F. Murphy, B.Sc.

University of St. Francis Xavier's, Antigonish, N.S.

Professor of Chemistry.—Rev. R. K. MacIntyre, M.A., B.Sc.

NEW BRUNSWICK.

MOUNT ALLISON UNIVERSITY, SACKVILLE.

Professor of Chemistry.—H. E. Bigelow, Ph.D. (Harvard).
Assistant Professor.—C. A. Cuthbertson, Ph.D. (McGill).
Instructor.—A. G. Eardley, B.Sc.

UNIVERSITY OF NEW BRUNSWICK, FREDERICTON.

Professor of Chemistry.—J. L. O'Toole, Ph.D.

MANITOBA.

UNIVERSITY OF MANITOBA.

Department of Chemistry.

Professor of Chemistry.—M. A. Parker, B.Sc. (Glas.), LL.D. (Manitoba), F.I.C.
Assistant Professor.—H. P. Armes, Ph.D.
Assistant Professors.—A. N. Campbell, Ph.D. (Lond.), D.Sc. (Aberd.), F.I.C.; P. G. Hiebert, M.A., Ph.D.

Department of Biochemistry.

Professor.—A. T. Cameron, M.A., D.Sc. (Edin.), F.I.C.
Assistant Professor.—F. D. White, Ph.D. (Edin.), A.R.T.C., F.I.C.

Department of Agricultural Chemistry.

Professor of Chemistry.—W. F. Geddes, M.A., B.S.A.
Assistant Professor.—A. D. Robinson, M.A., Ph.D.

CITY OF WINNIPEG.

Chemist.—A. Blackie.

GENERAL HOSPITAL, WINNIPEG.

Biochemist.—A. T. Cameron, M.A., D.Sc. (Edin.), F.I.C.

SASKATCHEWAN.

Provincial Laboratory, Regina.

Analytical Chemist.—J. G. Lewis, B.A. (Sask.).

UNIVERSITY OF SASKATCHEWAN, SASKATOON.

Department of Chemistry.

Professor of Chemistry and Head of Department.—T. Thorvaldson, B.A. (Man.), Ph.D. (Harv.).
Professor of Biochemistry.—R. J. Manning, B.A. (Toronto), D.Sc. (Bris.).
Professor of Organic Chemistry.—S. Basterfield, B.Sc. (Lond.), Ph.D. (Chicago).
Professor of Physical Chemistry.—A. C. Grubb, Ph.D. (Chicago).
Professor of Cereal Chemistry.—R. K. Larmour, M.Sc. (Sask.), Ph.D. (Minnesota).
Assistant Lecturer and Instructor.—J. H. Fraser, B.Sc. (Sask.).
Demonstrators.—I. Bergsteinsson, B.Sc.; A. C. Nixon, B.Sc.; F. B. Rodman, B.Sc.; Miss M. Greig, B.A.
Research Chemist.—D. Wolochow, M.A. (Sask.).
Analyst.—V. A. Vigfurson, M.A.

Department of Bacteriology and Pathology.

Professor of Bacteriology and Pathology and Head of Department.—W. S. Lindsay, O.B.E., B.A. (Dal.), M.B., Ch.B. (Edin.).
Professor of Bacteriology.—G. W. Rea, M.B., Ch.B. (Belfast), D.P.H.
Analyst and Technician.—N. Rayner.

ALBERTA.

Scientific and Industrial Research Council of Alberta.

(Laboratories at the University of Alberta).

Chief Chemical Engineer, Director of Fuels.—E. Stansfield, M.Sc. (Manc.).
Chemical Engineer, Chief, Division of Road Materials.—K. A. Clark, M.A. (McMaster), Ph.D. (Illinois).
Fuels.—W. A. Lang, M.Sc. (Alberta); K. C. Gilbart, M.Sc. (Alberta); R. G. Brewer, M.Sc. (Alberta); M. F. Teskey, B.Sc. (Manitoba).
Road Materials.—D. S. Pasternack, B.Sc. (Queen's), Ph.D. (McGill).

National Research Council and Scientific Research Council of Alberta.

Research Assistants in Gas Investigations.—A. W. Saddington, B.Sc. (Alberta); H. E. Morris, B.Sc. (Alberta); P. E. Gishler, B.Sc. (Alberta); W. V. Drake, M.Sc. (Alberta).

University of Alberta, Edmonton.

Professor of Chemistry and Head of Department of Chemistry.—J. W. Shipley, M.A. (Manitoba), Ph.D. (Harvard).
Associate Professor.—O. J. Walker, B.A. (Sask.), M.A. (Harvard), Ph.D. (McGill).
Assistant Professors.—R. B. Sandin, M.Sc. (Alberta), Ph.D. (Chic.); E. H. Boomer, M.Sc. (B.C.), Ph.D. (McGill); N. McK. Stover, M.Sc. (Alberta), Ph.D. (Illinois).
Professor of Biochemistry and Head of Department of Biochemistry.—G. Hunter, M.A., D.Sc. (Glas.).
Assistant Professor of Biochemistry.—W. D. Macfarlane, M.A., B.Sc. (Toronto).
Professor of Mining and Metallurgy.—A. E. Cameron, M.Sc. (McGill), D.Sc. (Mass.).
Director and Provincial Analyst, Industrial Laboratories.—J. A. Kelso, M.Sc. (Queen's).
Assistant.—S. C. Lynn, B.Sc. (Alberta).

BRITISH COLUMBIA.

Government Analyst and Assayer.—**D. E. Whittaker.**

University of British Columbia, Point Grey, Vancouver.

Professors of Chemistry.—R. H. Clark, M.A. (Toronto), Ph.D. (Leipzig); E. H. Archibald, B.Sc. (Dal.), A.M., Ph.D. (Harvard).
Associate Professor.—W. F. Seyer, B.A., M.Sc. (Alberta), Ph.D. (McGill); M. J. Marshall, M.Sc. (McGill), Ph.D. (Mass.).
Assistant Professors.—J. A. Harris, M.A. (B.C.), Ph.D. (Ill.); W. Ure, M.A.Sc. (B.C.), Ph.D. (Cal.).

NEWFOUNDLAND.

(Appointed by the Government of the Dominion.)

Government Analyst.—D. James Davies, C.B.E., J.P., B.Sc. (Wales), F.I.C.

Assistant to the Government Analyst.—J. F. Newman.

Clerk and Assayer.—W. Berrigan.

Assistant Analyst.—J. Healey.

The work of the Laboratories consists chiefly in the analysis of Alcoholic Beverages, Marine Animal Oils, Fish Meals and Fertilisers, Foodstuffs, and the Assay of Mineral Ores.

THE WEST INDIES.

THE IMPERIAL COLLEGE OF TROPICAL AGRICULTURE, ST. AUGUSTINE, TRINIDAD.

This College was opened on October 16th, 1922, at St. Augustine, Trinidad. A three years' course of instruction leads to a Diploma in Tropical Agriculture. Courses of instruction are arranged for post-graduate students and for Agricultural Officers who intend to seek employment in Colonial Departments of Agriculture. The College is managed by a Governing Body meeting in England with an Executive Committee meeting in Trinidad. The London Office is at 14, Trinity Square, E.C.3. Sir A. E. Aspinall, C.M.G., C.B.E., Secretary; Sir James Currie, K.B.E., C.M.G., Chairman.

The object of the College is to provide training in the science and practice of tropical agriculture to students intending to become tropical planters, agricultural administrators or officers, or specialists in different branches of agricultural science and technology, and to offer facilities for the study of tropical agriculture to graduates of other colleges and universities. An important feature of the College is the provision for research and investigation work which its laboratories and fields afford.

Principal.—G. Evans, M.A., C.I.E.

Professor of Agriculture.—R. C. Wood, M.A.

Lecturer in Agriculture.—D. H. Brown.

Professor of Chemistry and Soil Science.—F. Hardy, M.A.

Lecturers in Chemistry and Soil Science.—P. E. Turner, M.Sc., F.I.C. (Seconded as Soil Chemist to Froghopper Investigation Committee); H. H. Croucher, B.Sc., A.I.C.

Professor of Mycology and Bacteriology.—H. R. Briton-Jones, D.Sc., A.R.C.S., D.I.C.

Lecturer in Mycology and Bacteriology.—A. K. Briant, M.A. (Cantab.).

Professor of Sugar Technology.—W. Scott, B.Sc.

Lecturer in Sugar Technology.—J. G. Davies.

Chemist, Cocoa Research Scheme.—A. J. McDonald.

College Agricultural Advisory Department.

The College has taken over most of the functions of the Imperial Department of Agriculture for the West Indies, which was established in 1898. The

Agricultural Advisory Department of the College was created in 1927. Its function is of an advisory and partly administrative character with the Governments or Botanic Experiment Stations of the Windward and Leeward Islands, and of a consultative character with the Governments or Departments of Agriculture of Barbados, Trinidad, British Guiana and Jamaica. The Department is administered by an Imperial Commissioner appointed by the Secretary of State for the Colonies, assisted by a Commissioner (who is in executive charge) and an Assistant Commissioner. Its present Imperial Commissioner is the Principal of the College.

BRITISH GUIANA.

Government Analyst's Department.

The Government Analyst is appointed by the Secretary of State for the Colonies. He is required to have knowledge of and experience in toxicological analysis, the analysis of foods and drugs, the construction and use of polariscopes, the analysis of sugar and of other agricultural products, and of agricultural science generally. He is also required to possess a knowledge of assaying, mineralogy and economic geology.

The Assistant Analysts stationed at the Government Laboratory are largely occupied with examinations of samples for fiscal and excise purposes. Assistant Analysts are appointed by the Governor, under Section 16 (1) of Ordinance No. 38 of 1918, entitled the Sale of Food and Drugs (Consolidation) Ordinance, 1918, which provides that "The Governor may appoint any fit and proper person or persons to be an Assistant Analyst or Assistant Analysts for the purposes of this Ordinance, and may at any time cancel any such appointment; provided that no person shall be so appointed who is directly or indirectly engaged or interested in any trade or business connected with the manufacture of, or the sale in, or the importation into, or the exportation from this Colony of articles of food or drugs."

Government Analyst.—W. Francis, F.I.C.

First Assistant Analyst.—L. S. Davis.

Second Assistant Analyst.—N. Newsam.

Third Assistant Analyst.—D. Iloo.

Under the provisions of the Pharmacy and Poisons Ordinance, which is administered by a Board of which the Government Analyst is *ex officio* Deputy Chairman, the title "Analytical Chemist" or "Analytical and Consulting Chemist" is confined to any person holding a diploma of the Institute of Chemistry of Great Britain and Ireland, provided that such person is not engaged in the trade of retailing and dispensing drugs or poisons; Fellows and Associates of the Institute are exempted from the restrictions imposed on purchasers of poisons, in respect of articles used in the exercise of their profession.

JAMAICA.

Department of Agriculture.

The Island Chemist is responsible for the general and agricultural analytical work of the Government and acts under the Adulteration of Food and Drugs Law, 1908, and the Fertilisers and Feeding Stuffs Law of the Island.

Government Laboratory.

Director of Agriculture and Island Chemist.—H. H. Cousins, M.A. (Oxon.).

Government Chemist and Public Analyst.—W. L. Barnett, M.A. (Cantab.), B.Sc. (Lond.), F.I.C.

Assistant.—E. N. Richards.

Technical Assistant.—H. B. Cole.

THE LEEWARD ISLANDS.

GOVERNMENT LABORATORY, ANTIGUA.

The Government Laboratory is maintained in connection with the Imperial Department of Agriculture for the West Indies, largely for the purpose of conducting chemical investigations for the experiment stations in the Islands of Antigua and Barbuda, St. Christopher (St. Kitts) and Nevis (with Anguilla), Dominica, Montserrat, and The Virgin Islands. The Government Chemist is also Superintendent of Agriculture for the Leeward Islands.

Government Chemist and Superintendent of Agriculture for the Leeward Islands.—A. E. Collens, F.I.C.

Assistant Government Chemist.—F. H. S. Warneford, M.A. (Cantab.), B.Sc. (McGill), A.I.C.

First Assistant.—E. A. Thompson.

TEACHERS OF AGRICULTURAL CHEMISTRY.

ANTIGUA	..	Grammar School	T. N. Parkin, B.Sc. (Lond.), A.I.C.
DOMINICA	..	Grammar School	H. B. Pidduck.
ST. KITTS	..	Grammar School	R. E. Kelsick.

BARBADOS.

DEPARTMENT OF SCIENCE AND AGRICULTURE.

(Appointed by the Education Board.)

The Professor of Chemistry undertakes the official work under the Food and Drugs, Fertilisers and Feeding Stuffs, Petroleum, and Police Acts.

Director and Island Professor of Chemistry.—John Pedrozo d'Albuquerque, M.A. (Cantab.), F.I.C.

Assistant Director.—C. C. Skeete, B.A. (Cantab.).

Assistant Chemist (Sugar-cane Experiments).—S. J. Saint, B.Sc. (Lond.), A.I.C.

Assistant to Professor of Chemistry.—R. R. Hall, B.A. (Cantab.).

Lecturer in Natural and Agricultural Sciences.—J. H. Robinson, M.A. (Cantab.).

Chief Analytical Assistant.—C. A. Coppin, B.A.Sc. (Toronto).

HARRISON COLLEGE.

The Science instruction at this centre of the local educational system of the Island is concentrated at the Government Laboratory.

The instruction, including that for the Diploma in Agricultural Science, is given by the Staff of the above-mentioned Department.

LODGE SCHOOL.

The Science Master is now independent of the local Science Department.

Science Master.—H. Hudson, B.A. (Cantab.).

TRINIDAD AND TOBAGO.

DEPARTMENT OF AGRICULTURE.

The Department of Agriculture has a Chemical Division in which investigations are conducted in connection with Sugar Cane experimental work, Cacao, Cassava and other crops, soils, etc.

Director of Agriculture.—W. G. Freeman, B.Sc., A.R.C.S.
Agricultural Chemist.—J. de Verteuil, F.I.C.
Assistant to Agricultural Chemist.—L. Daniel.

DEPARTMENT OF GOVERNMENT ANALYST.

Government Laboratory, Frederick Street, Port of Spain.

This Department was re-created in 1920, and is now separated from the Department of Agriculture. The Government Analyst, the Assistant Analyst and the Laboratory Assistant are appointed by the Secretary of State. Analysts under the Food and Drugs Ordinance and Fertilisers and Feeding Stuffs Ordinance are further appointed by the Governor.

Pharmaceutical students attend for lectures in Pharmaceutical Chemistry.

Government Analyst.—Herbert S. Shrewsbury, F.I.C.
Assistant Government Analyst.—Kenneth Wallis, B.Sc. (Lond.), A.I.C.
Laboratory Assistant.—S. M. Carrmuddeen.

EDUCATION DEPARTMENT.

PORT OF SPAIN	Queen's Royal College	A. L. Potter, B.Sc. (Edin.), A.I.C.

Australia.

THE COMMONWEALTH OF AUSTRALIA.

In addition to the official Governmental and Municipal appointments and the teaching appointments in Universities and Technical Colleges, there are very many appointments for teachers in High Schools throughout the Commonwealth.

DEPARTMENT OF DEFENCE, MELBOURNE, VICTORIA.

Munitions Supply Board.

The Munitions Supply Board is responsible for the provision of war material requisitioned by the Naval, Military, and Air Forces.

The Board has under its control the several Commonwealth Factories for the production of Munitions and Equipment, Munitions Supply Laboratories, Inspection Branch, and Contract Board.

Controller-General, Munitions Supply, and Chairman, Munitions Supply Board.—A. E. Leighton, F.I.C.

Superintendent of Munitions Supply Laboratories.—M. Bell, O.B.E., F.I.C.

Assistant Superintendent of Laboratories.—J. T. McCormick, M.Sc. (Melb.).

Senior Chemists.—R. E. Summers, Registered Public Analyst; A. E. Dawkins, B.Sc. (Adelaide), A.I.C.; P. R. Weldon, A.I.C.; A. A. Robertson, B.Sc. (Melb.).

Chemists.—J. M. West, B.Ag.Sc. (Melb.); W. A. Hedding, B Sc. (Melb.); H. R. Williams, M.Sc. (Melb.); W. H. Summers, Registered Public Analyst; T. V. Heath; E. A. Goode, M.Sc. (Melb.).
Junior Chemists.—A. J. Roennfeldt, B.Sc. (Melb.).
Junior Metallurgist.—E. G. Thurlby, B.Met.E. (Melb.).

Munitions Factories.

Chief Chemical Engineer.—N. K. S. Brodribb, O.B.E., F.I.C.

Explosives Factory.

Manager.—A. A. Topp, A.I.C.
Assistant Managers.—A. G. Hall; J. R. S. Cochrane, B.Sc. (Melb.), A.I.C.
Senior Chemists.—A. K. Jack, M.Sc. (Melb.), A.I.C.; C. W. O. Stubbs, B.Sc. (Melb.), A.I.C.; S. B. Abbott.
Chemists.—N. P. Kitchen; R. W. Latimer; W. G. Robins, B.Sc. (Birm.), A.I.C.
Junior Chemists.—L. G. Mitchell, B.Sc. (Melb.); J. H. Sinclair, B.Sc. (Edin.).

Ammunition Factory.

Chemist-in-Charge.—J. H. Martin.
Chemist.—E. E. Backhouse.
Junior Chemists.—T. G. B. Easton; W. A. Stephens; J. C. Turner.

Small Arms Factory, Lithgow, N.S.W.

Chemist.—W. Lumley.

ROYAL NAVAL COLLEGE OF AUSTRALIA, JERVIS BAY.

Lecturer in Chemistry.—F. W. Wheatley, B.A. (Oxon.), D.Sc. (Adelaide).

ROYAL MILITARY COLLEGE OF AUSTRALIA.

Duntroon, Federal Capital.

Professor of Chemistry and Physics.—Colin E. McKenzie, Ph.D. (Berlin).

DEPARTMENT OF HEALTH.

Commonwealth Serum Laboratories, Royal Park, Victoria.

Chemist.—W. W. Hurst, B.Sc. (Adelaide), Ph.D. (Cantab.).
Technical Assistants.—F. J. Considine; D. A. Tate; C. L. Biggs; E. S. Raven; H. V. Golding, B.Sc. (Melb.); G. Anderson; R. T. Simmons; A. H. Mengoni; F. J. Dempster; J. J. Graydon; R. Patterson, B.Sc. (Melb.); C. Wilton; I. F. Stephens; R. Christie, B.Sc. (Edin.).
Laboratory Assistants.—Miss E. E. M. Derrick, M.Sc. (Melb.); Miss H. M. Doery, B.Sc. (Melb.); Miss E. Wadeson, B.Sc. (Melb.).

Commonwealth Health Laboratories.

CENTRE.	TECHNICAL ASSISTANTS.
BENDIGO	E. A. Poole.
KALGOORLIE, W.A.	E. Allen, B.Sc. (Johannesburg).
PT. PIRIE, S.A.	J. R. Garnett.
LISMORE, N.S.W.	F. R. Barrett.
LAUNCESTON, TASMANIA	L. G. Armstrong.
TOOWOOMBA, Q.	K. Brushfield.
TOWNSVILLE, Q.	S. C. Lyon.
ROCKHAMPTON, Q.	P. T. Redmond.
CAIRNS, Q.	C. H. Kilian.

COMMONWEALTH PATENT OFFICE, DEPARTMENT OF PATENTS, MELBOURNE, VICTORIA.

Examiners—Chemistry Division.

Acting Assistant Chief Examiner.—R. H. Wilmot.

Examiners.—R. H. Lewis; A. S. W. Higgs; S. G. Adamson; A. P. L. Chauncey; J. S. Hurrey; C. A. Fox; T. Hodgkinson.

DEPARTMENT OF TRADE AND CUSTOMS.

Commonwealth Laboratory, Melbourne, Victoria.

In 1908 the Commonwealth Government of Australia created the position of Commonwealth Analyst, who is an officer of the Department of Trade and Customs (Central Staff), and is appointed by the Governor-General in Council. He undertakes all analytical duties of the Central Staff of the Federal Customs Department, and such other chemical examinations and investigations as may be required under the Customs Act, Commerce Act, Spirits Act, and Quarantine Act. Service is also given in connection with the work of the Departments of Post and Telegraph Works and Railways, Home Territories, and Navy Defence.

Commonwealth Analyst.—W. P. Wilkinson.

Analyst.—A. F. Parkin, M.Sc. (Melb.), A.I.C.

Technical Assistant.—J. R. Watson.

The Victorian Branch carries out analytical control of imports and exports for the State of Victoria (Customs Dept.), and any other examinations required under the Customs Act, Commerce Act, Spirits Act, Excise Act, and Wine Export Bounty Act.

Chief Analyst.—B. T. Paton.

Supervising Analyst.—H. R. Jupp.

Analysts.—M. R. Walker; H. P. Miller; R. A. Dunt.

ATTORNEY-GENERAL'S DEPARTMENT.

Commonwealth Patent Office.

Examiners of Patents.—A. P. L. Chauncey; R. H. Lewis; R. H. Wilmot; S. G. Adamson.

COMMONWEALTH RAILWAYS.

Chemist.—T. J. Brennan.

COMMONWEALTH COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH, MELBOURNE.

Council.—Sir George Julius, B.Sc., B.E. (Chairman); Prof. A. C. D. Rivett, M.A., D.Sc., Deputy-Chairman; Sir David Masson, K.B.E., M.A., F.I.C., F.R.S.; Prof. R. D. Watt, M.A., B.Sc.; Prof. H. C. Richards, D.Sc.; Prof. E. J. Goddard, B.A., D.Sc.; Prof. H. A. Woodruff, M.R.C.V.S.; W. J. Young, C.B.E.; B. Perry; P. E. Keam.

Chief Executive Officer.—Prof. A. C. D. Rivett, M.A., D.Sc.

Secretary.—G. Lightfoot, M.A.

Assistant Secretary.—G. A. Cook, M.Sc., B.M.E.

The chief function of the Council is the initiation and carrying out of scientific researches in connection with, or for the promotion of, the primary or secondary industries in the Commonwealth. The investigational work of the Council is organised into Divisions. Chemists engaged in this work are:—

Division of Animal Nutrition.

Acting Chief of Division.—H. R. Marston.

Chemists.—R. G. Thomas, B.Sc.; F. C. Farr; Miss I. Gero, D.Sc.

Division of Animal Health.

Chemists.—F. F. Allsopp, B.Sc.; A. T. Dann, M.Sc.

Division of Forest Products.

Chief of Division.—I. H. Boas, M.Sc. (Perth), A.I.C.

Chemists.—W. E. Cohen, B.Sc. (Adelaide), A.I.C.; J. E. Cummins, M.Sc.; H. E. Dadswell, M.Sc.; L. Baldock, B.Sc.

Division of Soils Research.

Chief of Division.—Prof. J. A. Prescott, M.Sc.

Chemists.—H. G. Poole, M.Sc.; J. K. Taylor, B.A., M.Sc., M.Agr.Sc.; H. N. England, B.Sc.; T. F. Marshall, B.Agr.Sc.; J. S. Hosking, B.Sc.; C. G. Stephens, B.Sc.

Miscellaneous.

Mineral Deficiencies in Pastures.—R. E. Shapter.

Cold Storage Investigations.—J. R. Vickery, Ph.D.

NEW SOUTH WALES.

HEALTH DEPARTMENT: GOVERNMENT LABORATORIES.

Government Analyst.—William M. Doherty, F.I.C.

Second Government Analyst.—S. G. Walton.

Senior Assistant Government Analyst.—H. B. Taylor, M.C., D.Sc. (Sydney), F.I.C.

Assistant Government Analyst.—A. D. Dibley.

Analysts.—R. G. O'Brien; S. E. Ogg, B.Sc. (Syd.).

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

Analytical Chemist.—A. Cronin.

MEAT INDUSTRY BOARD.

Chemist.—J. A. Creswick.

MUNICIPAL APPOINTMENTS.

City Council, Sydney.

Chemist.—G. H. Adam.

Assistant Chemists.—T. P. Rickard; N. A. Whiffen.

PUBLIC ANALYSTS.

A number of Analysts have been approved by the Board of Health as competent to perform analyses for the public or for corporations, municipalities, etc., under the Pure Food Act, 1908. The analysts approved by the Board are in private practice, but their certificates of analysis of foods or drugs, given in a form prescribed by the regulation under the Pure Food Act, are accepted as evidence in Court in cases of prosecution. They are required to produce evidence of knowledge and experience to the satisfaction of the Board of Health and the Government Analyst.

J. R. Anderson; R. Basden; T. A. J. Byrnes; L. S. Cash; R. W. Challinor, F.I.C.; T. Cooksey, B.Sc. (Lond.), Ph.D. (Marburg), F.I.C.; A. D. Dibley;

A. J. Dixon, F.I.C.; W. M. Doherty, F.I.C.; F. Eastwood, B.Sc.; W. M. Hamlet, F.I.C.; H. G. A. Harding; T. Hughes; O. A. Mendelsohn, B.Sc. (Melb.); F. H. Molesworth; R. K. Newman, B.Sc. (Syd.); G. A. Noellat; R. G. O'Brien; J. H. Phillips; V. S. Rawson, B.Sc. (Queensland), A.I.C.; C. D. Ryder; H. B. Taylor, M.C., D.Sc. (Sydney), F.I.C.; P. J. Thibault; J. G. Tibbett; S. G. Walton; F. L. Watt, A.R.C.S., F.I.C.

DEPARTMENT OF AGRICULTURE.—CHEMICAL LABORATORY.

Chief Chemist.—A. A. Ramsay.

Senior Chemist.—E. L. P. Griffiths, B.Sc. (Sydney).

Analysts.—C. R. Barker; L. A. Musso.

Assistant Analysts.—C. S. Boyd, B.Sc.Agr.; G. W. Norris; N. H. Parberry, B.Sc.Agr.; R. L. Petrie; A. V. Robinson, B.Sc.Agr.

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Analysts.—H. A. J. Donegan; E. N. Reidy.

Junior Chemist.—B. M. Jones, B.Sc.

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Chief Assistant Chemist.—R. E. Cowles.

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Chemist.—F. Pywell.

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Government Medico-Legal Chemist.—C. A. Taylor, B.Sc. (Melb.).

The analytical work under the Health Act, 1919, Pure Foods Section, are carried out by Analysts appointed by the State Government through the Commission of Public Health. These Analysts act as Public Analysts in the employ of the State Government.

Public Analysts acting in a private capacity must first be duly approved by the Commission of Public Health before engaging in their profession as such.

Analysts in State Government Public Health Laboratory.—G. H. Watson; G. H. Wignell (temporary).

Public Analyst, Geelong.—J. M. Hennessy.

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First Assistant Chemist.—F. F. Field.

Assistant Chemists.—Miss M. K. Evans, B.Sc.; J. H. Graham.

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(Appointed by the University Council.)

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Inorganic and Physical.—B. Cavanagh, M.A. (Oxon.), D.Sc. (Lond.).

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Lecturer.—G. A. Ampt, B.Sc.

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Education Department, Victoria.

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Office of the Director, Government Analyst, Chief Inspector of Explosives, and Chief Inspector of Inflammable Oils (Kintore Avenue, Adelaide).

The Government Department of Chemistry was established in 1915. Prior to that date, the Government Analyst and staff were attached to the Marine Board Department owing to the explosives legislation being administered by that Department. The Government Department of Chemistry is principally engaged in general chemical examinations and analytical work in pursuance of various Acts of Parliament, for Government Departments, and for the general public. The chemical investigation of local products and industries forms an important branch of its work.

Director, Government Analyst, Chief Inspector of Explosives, Chief Inspector of Inflammable Oils, Chief Chemologist, Analyst under Food and Drugs Act, 1908, *Analyst under Fertilisers Act*, 1918, *etc., Administrator of Gas Act*, 1924, *Chief Gas Examiner, and Vice-Chairman of the Advisory Council of Science and Industry.*—W. A. Hargreaves, M.A., B.C.E. (Melb.), D.Sc. (Adelaide), F.I.C.

Deputy Government Analyst, Senior Chemologist, Analyst under Food and Drugs Act, 1908, *Analyst under Fertilisers Act*, 1918, *Inspector of Explosives, Inspector of Inflammable Oils and Gas Examiner.*—W. T. Rowe, F.I.C.

Senior Chemologist, Analyst under Food and Drugs Act, 1908, *Analyst under Fertilisers Act*, 1918, *Inspector of Explosives, and Inspector of Inflammable Oils.*—C. E. Chapman, F.I.C.

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Chemologists and Analysts under Fertilisers Act, 1918.—G. D. Shaw ; A. J. Farquhar.

Chemologist, Inspector of Explosives, and Inspector of Inflammable Oils.—S. N. Sexton.

Chemologist, Gas Examiner, and Inspector of Meters under Gas Act, 1924.—H. T. Robjohns.

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Customs Laboratory, Port Adelaide.

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Department of Agricultural Chemistry and Commonwealth Division of Soil Research.
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SOUTH AUSTRALIAN SCHOOL OF MINES AND INDUSTRIES.
(North Terrace, Adelaide.)

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Industrial Chemist and Assistant Metallurgist.—R. A. Laughton.

Assistant Metallurgist and Lecturer in Assaying.—E. W. Hughes, A.R.S.M.

Lecturer in Chemistry.—Miss M. Burgess, B.Sc.

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Central Sugar Cane Prices Board.

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Charters Towers	High School ..	G. H. Wilson, B.Sc. (Queensland).
Ipswich ..	Technical College	G. J. Saunders, M.Sc. (Queensland), B.E. (Sydney); C. K. Evans, B.Sc. (Queensland).
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Chief Inspector of Mines.—J. O. Hudson.

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Chemist.—C. St. Clair Manson.

Assistant Chemist.—C. J. Penman.

THE UNIVERSITY OF TASMANIA, HOBART.

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Lecturer.—P. J. MacLeod, B.A. (N.Z.).

TECHNICAL EDUCATION.

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(Affiliated to the University of Tasmania.)

Lecturer in Chemistry, Metallurgy, and Assaying.—Vacant.

	INSTITUTION.	TEACHERS OF CHEMISTRY.
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LAUNCESTON ..	Technical College	Vernon V. Hickman, B.Sc. (Tas.).
QUEENSTOWN ..	Technical College	A. S. Winter.
ZEEHAN ..	Technical College	E. H. D. White.

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The analytical and research work required by the Departments of Health, Mines, Agriculture, Public Works, and Water Supply and Sewerage, are undertaken by the Government Mineralogist and Analyst in the Chemical Branch of the Department of Mines. The Health Act also provides for the appointment of Public Analysts under the various Local Boards of Health. The chemical investigations required by the Railway Department are carried out in a separate laboratory attached to that Department.

GOVERNMENT CHEMICAL LABORATORY.

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Foods, Drugs and Toxicology.

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Mineralogist and Chemist.—D. G. Murray.

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Analyst to W.A. Health Board.—W. Geary.

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SCHOOL OF MINES, KALGOORLIE.

Department of Metallurgy.—B. H. Moore, B.E.

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Cadet.—J. W. Shield.

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Chemist.—F. H. McDowall, M.Sc. (N.Z.), D.Sc. (Lond.), A.I.C.

Dairy Bacteriologist.—H. R. Whitehead, M.Sc. (Leeds), A.I.C.

Leather Research Association.

Director.—Philip White, M.C., B.Sc. (Lond.), A.R.C.S., F.I.C.

DEPARTMENT OF AGRICULTURE.

Chemistry Section, Wellington.

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Research Agricultural Chemist.—A. H. Sim, B.Sc., B.Sc.Agric. (Aberd.), A.I.C.

Canterbury Agricultural College, Lincoln.

Chemist.—M. C. Franklin, M.Sc. (N.Z.), A.I.C.

EDUCATION.

UNIVERSITY OF NEW ZEALAND.

The University of New Zealand is an examining body having the University of Otago and the University Colleges of Auckland, Christchurch and Wellington as affiliated institutions.

AUCKLAND UNIVERSITY COLLEGE.*

Professor of Chemistry.—F. P. Worley, M.A., M.Sc. (N.Z.), D.Sc. (Lond.), D.I.C.

Lecturer-Demonstrators.—A. H. Bowell; W. F. Short, D.Sc. (Manc.), A.I.C.

CANTERBURY COLLEGE, CHRISTCHURCH.*

Professor of Chemistry.—H. G. Denham, M.A., D.Sc. (Liv.), Ph.D. (Heid.), F.I.C.

Lecturer.—J. Packer, M.Sc. (Melb.).

Demonstrator.—Miss E. B. Kidson, M.Sc. (N.Z.).

UNIVERSITY OF OTAGO, DUNEDIN.*

Professor of Chemistry.—J. K. H. Inglis, M.A., B.Sc. (N.Z.), D.Sc. (Edin.), F.I.C.

Lecturer.—C. L. Carter, M.Sc. (N.Z.), A.I.C.

Lecturer in Metallurgy and Assaying.—H. G. Black.

VICTORIA UNIVERSITY COLLEGE, WELLINGTON.*

Professor of Chemistry.—P. W. Robertson, M.A., M.Sc. (N.Z.), M.A. (Oxon.), Ph.D. (Leipzig).

Lecturer in Chemistry.—A. D. Monro, M.Sc. (N.Z.), A.I.C.

THE CAWTHRON INSTITUTE OF SCIENTIFIC RESEARCH, NELSON. Founded 1919, for research in relation to Agriculture.

Director.—T. H. Easterfield, M.A. (Cantab.), Ph.D. (Würzburg), F.I.C.

Agricultural Chemist.—Theodore Rigg, M.A. (Cantab.), M.Sc. (N.Z.), F.I.C.

Research Chemist.—H. O. Askew, M.A. (N.Z.), Ph.D. (Lond.), D.I.C., A.I.C.

Orchard Chemist.—L. Tiller, B.Sc. (N.Z.).

Assistant Chemists.—L. Bishop; J. A. Bruce.

SCHOOLS OF MINES.

	SCHOOL.	TEACHERS OF CHEMISTRY.
COROMANDEL	School of Mines	U. B. Inglis.
DUNEDIN ..	Otago University School of Mines	James Park, Director. *Metallurgy and Assaying.*—H. G. Black.
REEFTON ..	School of Mines	J. J. W. Lee.
THAMES ..	School of Mines	H. Crawford, Director; S. J. Bennett, B.Sc.; W. H. Baker, B.Sc. (N.Z.).
WAIHI	School of Mines	A. H. V. Morgan, M.A. (N.Z.).
WESTPORT ..	School of Mines	J. F. McPadden.

Technical Schools.

TECHNICAL SCHOOLS.	INSTRUCTORS IN CHEMISTRY.
AUCKLAND	Roy H. Inder, B.Sc. (N.Z.); F. Neve, M.A., B.Sc.
CHRISTCHURCH	J. B. Garnett, B.Sc. (Lond.); R. M. Bruce, B.Sc., A.R.S.M., A.I.C.
DUNEDIN	R. Gardner, M.Sc. (N.Z.), F.I.C.; G. M. Moir, M.Sc. (N.Z.), A.I.C.; P. W. McDougall; Miss C. S. White.
GREYMOUTH	C. V. Ferriss, B.Sc. (Sydney), A.I.C.
HASTINGS	O. C. Stephens, M.Sc.
HAWERA	H. R. Heward, B.Ag. (N.Z.).
INVERCARGILL	Miss R. M. Blackie, B.Sc.; T. G. Malcolm.
NAPIER	M. H. Dixon; Miss E. C. Paterson, B.Sc.
NEW PLYMOUTH	J. D. Roulston.
PUKEKOHE	P. Gallagher, B.Ag.Sc.
STRATFORD	H. C. Johnson.
WANGANUI	J. Nicol, M.A. (N.Z.); E. Hudson, B.Sc., B.Ag.
WELLINGTON	T. A. Glendinning, M.Sc. (N.Z.), F.I.C.
WESTPORT	J. Nicol, M.A.; Miss E. Marshall, B.Sc.

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FIJI.

The work of the Government Chemist is mainly for the Agricultural Department, Suva, but he also carries out such work as is required by the Police and Customs Departments.

Government Chemist and Head of Agricultural Dept.—A. C. Barnes, B.Sc. (Vict.), F.I.C.

EGYPT.

Egypt, being an independent Kingdom, does not come strictly within the scope of the list, but is included here as an exception in view of the number of British chemists employed there.

Ministry of Finance—Chemical Department.

Controller.—A. G. Innes, M.A. (Oxon.), Ph.D. (Zürich), F.I.C.

The Chemical Department of the Ministry of Finance comprises four technical services.

Their functions and the names of the principal members of the professional chemical staff are shown below.

Chemical Laboratory, Cairo.

Director.—L. F. McCallum, A.I.C.

Chemists.—I. P. Morris, B.Sc. (Lond. and Wales), A.I.C.; M. F. El Fooly, Ph.D. (Berlin); M. Hakki, Ph.D. (Berlin); M. S. Selim, Ph.D. (Berlin); M. A. Himmat, M.Sc.Tech. (Manc.); H. S. Mattar, M.Sc. (Manc.); M. Badie, B.Sc. (Birm.); S. Hindi, B.Sc. (Manc.); A. A. Selim, N. Barsoum, M.Sc. (Sheffield); A. Samman.

Tobacco Chemist.—J. F. Halpin, I.S.O., F.I.C.

GOVERNMENT ASSAY OFFICE.

The institution, with its branch offices in Alexandria and two provincial towns, carries out the assay and hallmarking of gold and silver jewellery, whether made in the country or imported. Hallmarking, etc., is required by Egyptian law.

Director.—M. B. Shakeen.

Chemist and Metallurgist.—G. E. Doherty.

GOVERNMENT PETROLEUM REFINERY, SUEZ.

Manufactures Fuel Oil, Diesel Engine Oil, Kerosine, Motor Spirit, etc., for Government Departments.

Director.—M. B. Blackler, Ph.D. (Würzburg), A.I.C.

Chief Chemist.—W. H. Crouch.

Chemist.—W. English.

CHEMICAL LABORATORY, ALEXANDRIA.

This institution deals with the chemical questions arising in the Egyptian Customs and Excise. The work involves (*a*) examination for assessment of duty, and (*b*) chemical consultative work in the Customs and Excise Tariff.

Director.—P. J. Sageman, F.I.C.

Chemists.—J. Stephenson, B.Sc. (Lond.), A.I.C.; M. Diab, Ph.D. (Vienna); G. Ghalioungi, Ph.D. (Toulouse).

MINISTRY OF THE INTERIOR—DEPARTMENT OF PUBLIC HEALTH.

PUBLIC HEALTH LABORATORIES, CAIRO.

The Chemical Section of the Public Health Laboratories embraces the chemical aspect of all questions connected with the Public Health of Egypt.

The work includes:—

(1) The chemical examination and control of all public water supplies of Egypt.

(2) The examination of sewage and sewage effluents.

(3) The control of the milk supply to Cairo and the Provinces.

(4) The examination of all articles of food, such as butter, butter fat, vegetable oils and fats, tinned foods, etc.

(5) The detection of narcotics and mineral poisons in human viscera, etc., in cases furnished by the Medical Officers of Health.

(6) The control (with regard to purity) of drugs imported into Egypt.

(7) The examination of drugs and medicines submitted by the Inspectorate of Pharmacies.

(8) The chemical research work connected with questions of Public Health and Hygiene.

Chief Chemist.—E. Griffiths-Jones, M.Sc. (Manc.), A.I.C.

Chemists.—H. Atkinson, B.A. (Oxon.), A.I.C.; A. Azadian, D.Sc. (Lausanne); A. E. B. Attia, Ph.D. (Gratz); M. K. Arman, Ph.D. (Innsbrück); M. el Masri, Ph.D. (Gratz); F. el Iskander.

PROVINCIAL LABORATORY, ASINT.

MINISTRY OF EDUCATION.

EGYPTIAN UNIVERSITY.

The Faculty of Science in the Egyptian University provides intermediate (two years) and final (two years) courses for the ordinary degree of B.Sc. Specialisation in Chemistry takes place subsequent to the attainment of this degree.

Professor of Organic Chemistry and Head of the Chemical Department.—R. W. West, D.Sc. (Lond.), A.R.C.S.

Professor of General and Physical Chemistry and Dean of the Faculty of Science.—D. H. Bangham, M.C., M.A. (Oxon.), D.Sc. (Manc.).

Assistant Professor.—A. Zaki, Ph.D. (Liv.). D.Sc. (Lond.).

Lecturers.—R. S. Cahn, M.A. (Cantab.), Ph.D. (Frankfurt), A.I.C.; N. Fakhoury, B.Sc. (Birm.); A. R. Tourky, Ph.D. (Munich); S. Musallam, B.Sc. (Manc.).

Demonstrators.—G. Soliman, B.Sc. (Egypt); A. F. Moh, B.Sc. (Egypt); W. Saleh, B.Sc. (Egypt); M. K. Hassan, B.Sc. (Egypt); M. A. Hassouna; N. Abdalla; Z. Saleh.

MINISTRY OF JUSTICE CHEMICAL LABORATORY, MEDICO-LEGAL DEPARTMENT.

The work undertaken by this laboratory is of the following nature:—(*a*) Examination of toxicological products in human and animal viscera and excreta, food, etc. including the recognition of portions of poisonous plants; (*b*) examination of firearms and clothing for traces of gunpowder; (*c*) comparison of projectiles; (*d*) examination of substances alleged to contain narcotic and other drugs in contravention of the law; and (*e*) examination of counterfeit coins.

Senior Chemist.—F. Bamford, B.Sc. (Lond.).

Chemists.—I. Idris; A. H. Mamish; R. Soliman.

Chemists attached to the Staff.—A. A. Azzam; M. A. Magid, Dr.Eng.; M. I. Gaessa, Ph.D.; Z. Tantawi, Ph.D.; A. R. Hammouda.

MINISTRY OF AGRICULTURE.

CHEMICAL SECTION.

Chief Chemist.—W. T. H. Williamson, B.Sc. (Aberd.), Ph.D. (Edin.), A.I.C.

Soil Physicist.—D. S. Gracie, B.Sc. (Edin.), A.I.C.

Chemists.—R. Aladjem (Chief Analytical Division); A. Riad, Ph.D. (Lond.); A. E. A. Nassar; M. Rizk, B.Sc. (Edin.); F. Khalil, Ph.D. (Edin.).

Assistant Chemists.—M. A. Aly, M.A., B.S.A. (Mississippi); A. Ragheb; A. Mokhtar.

Technical Assistants.—H. Rifai; A. B. S. Hassan; A. A. Z. El Abideen.

ROYAL AGRICULTURAL SOCIETY, CAIRO.

Chemist.—A. Mahmoud.

MUNICIPALITY LABORATORY, ALEXANDRIA.

The work includes the analysis of foods and various alimentary products: milk, butter, oils, fats, flour, preserves, etc.; of drugs: seizures of suspicious products by the authorities, from the point of view of detecting cocaine, opium, hashish, etc.; of water: systematic analysis from the point of view of control of the drinking supply of the city, etc.; of clinical analysis: urines, bloods, gastric contents, etc.

Director.—Arthur Compton, B.A., M.D., D.Sc.

Chief Chemist.—A. Villa.

Chemists.—P. D. Bella; L. Carpani; M. M. Sabri, Ph.D.

DEPARTMENT OF ANTIQUITIES, CAIRO.

Consulting and Research Chemist.—Alfred Lucas, O.B.E., F.I.C.

THE SUDAN.

WELLCOME TROPICAL RESEARCH LABORATORIES, GORDON COLLEGE, KHARTOUM.

Government Chemist.—B. W. Whitfeild, A.I.C.

Assistant Chemists.—J. S. Hancock, B.Sc. (Lond.); H. Greene, Ph.D. (St. Andrews), A.I.C.; H. B. Oakley, M.Sc. (Lond.); O. W. Snow, B.A. (Oxon.), B.Sc. (Lond.), A.I.C.; R. H. K. Peto, B.Sc. (Lond.), A.I.C.; M. Holmes, M.Sc. (Q.U.B.), A.I.C.; A. J. Henry, B.Sc.

III.

Appendix.

I. A List of Societies and Institutions directly interested in the advancement of chemical science and technology, with information as to their chief objects.

THE CHEMICAL SOCIETY.

Founded, 1841. Incorporated by Royal Charter, 1848.

(Burlington House, Piccadilly, London, W.1.)

The object of the Society is the general advancement of chemical science, by the discussion and publication of new discoveries, and the interchange of valuable information respecting them.

President.—Professor G. G. Henderson, D.Sc., LL.D., F.R.S.

Treasurer.—T. Slater Price, O.B.E., Ph.D., D.Sc., F.I.C., F.R.S.

Secretaries.—C. S. Gibson, O.B.E., M.A., B.Sc., M.Sc.Tech., F.I.C.: T. S. Moore, M.A., B.Sc.

Foreign Secretary.—F. G. Donnan, C.B.E., M.A., Ph.D., D.Sc., F.I.C., F.R.S.

Assistant Secretary.—S. E. Carr, F.C.I.S.

Librarian.—F. W. Clifford, F.L.A.

Editor of the Society's Journal.—C. Smith, D.Sc.

Assistant Editor.—A. D. Mitchell, D.Sc., F.I.C.

Every candidate for Fellowship is required to fill in a form of recommendation subscribed by not less than three Fellows of the Society, to whom he must be personally known. This form is read at three Ordinary Scientific Meetings of the Society, and election is then decided by ballot.

Fellowship of the Chemical Society is open to men and women who desire to be associated with the development of chemical science and are anxious to keep in direct touch with the advance of chemistry in this and other countries. A professional qualification is not required and undergraduates may be admitted.

The Journal of the Chemical Society, £3 per annum, and British Chemical Abstracts, "A" Pure Chemistry, £3 10s. per annum (both published monthly), are sent free of charge to Fellows, who are also privileged to obtain the *Annual Reports on the Progress of Applied Chemistry* at the reduced price of 5s. 6d. British Chemical Abstracts "B" (Applied Chemistry) and the Annual Reports of the Progress of Applied Chemistry can be obtained by Fellows at reduced rates.

The Journal and Proceedings, includes the Transactions of the Society and proceedings of the meetings. The Abstracts in Pure Chemistry consists of abstracts of papers appearing in English and foreign journals. The Annual Reports on the Progress of Chemistry contain an epitome of the principal definite steps which have been made in advance during the year.

Ordinary Scientific Meetings, at which scientific papers are read and discussed, are held at Burlington House twice a month, from October to June. In addition to these meetings, special lectures on subjects of general chemical interest are given. In accordance with a scheme of co-operation between the Society of Chemical Industry and the Chemical Society, Fellows resident in the Provinces are afforded facilities of attending, and reading papers before the provincial local sections of the Society of Chemical Industry.

The Library of the Society contains about 35,000 volumes. Fellows, and also members of contributing Societies, have the privilege of consulting and borrowing these, subject to the regulations of the Council.

The Society is equipped with a Research Fund, from which grants, amounting to about £700 per annum, are made for the purchase of special materials, etc., required for research. In the administration of this Fund, applications from Fellows have a prior claim to consideration.

Annual subscription, £3. Life composition fee, £45. Membership: 4000.

THE INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.

Founded, 1877. Incorporated by Royal Charter, 1885.

(30, Russell Square, London, W.C.1.)

The aims of the Institute include the elevation of the profession of chemistry and the maintenance of the efficiency, integrity and usefulness of persons practising the same, by compelling the observance of strict rules of membership and by setting up a high standard of scientific and practical proficiency. Under the provisions of the Royal Charter, the Institute was granted authority to hold examinations, to grant certificates of competency, and to register persons qualified to practise the profession of chemistry in its application to legal investigations, to public health, to the detection of the adulteration of food and drugs, to agriculture, and to the arts and manufactures.

The qualifications and examinations of the Institute have received the recognition of the principal Government Departments concerned with chemical appointments, including the Admiralty, the War Office, the Government Chemist, the Ministry of Agriculture, the Ministry of Health, the Scottish Board of Health, and the Colonial Office. The Institute has established examinations which are recognised under the regulations as to competency of Public Analysts, under the Food and Drugs (Adulteration) Act, and with few exceptions these appointments are held by Fellows of the Institute. The qualifications of the Institute (F.I.C. and A.I.C.) are also officially recognised by many other authorities both at home and in the Overseas Dominions.

The Institute possesses excellent headquarters, with *Laboratories and a Library*. Its office is available to Members and others requiring information and advice on matters of interest to chemists.

The *Appointments Register* maintained by the Institute provides a means whereby Members can be informed of vacancies, and authorities and employers can obtain the services of chemists.

Local Sections.—Local Sections of the Institute have been formed in important centres. The main objects of such sections are to maintain the interest of the Members in the general welfare of their profession and the Institute and to promote social intercourse.

Outline of the Regulations.—In pursuance of the provisions of the Charter and By-Laws, the Council have made Regulations (outlined below) for the admission of Students, Associates and Fellows.

Studentship.—*A candidate for registration as a Student of the Institute is required to produce evidence that he is over 16 years of age, and that he has passed a Preliminary Examination in subjects of general education, approved by the Council of the Institute. He must also show that, at the time of making application for registration, he is working at an institution recognised by the Council, or under the direction of a Fellow of the Institute, or in a laboratory or works approved by the Council, with the object of qualifying for the profession of Chemistry.

Associateship and Fellowship.—The extent of the training and the scope and character of the examinations for membership have been modified from time to time, in order to maintain a standard corresponding to the highest training obtainable in the country.

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* Women are admitted to the Studentship, Associationship and Fellowship of the Institute.

The method of conducting the examinations has given them a distinctly *practical* bias, and has exercised a decided effect on the advancement of higher education in chemical science, especially on the courses of those Universities and Colleges from which a steady entry of candidates has been maintained.

Candidates for admission to the *Associateship* are required to produce evidence of having passed an approved preliminary examination. (In special cases the Council considers other evidence of general education.)

The training for the Associateship extends over at least four years.

Admission to the Examination for the Associateship is open to:—

(i) candidates who have been systematically trained in a recognised University or College;

(ii) candidates who have been trained partly in recognised Universities or Colleges and partly under Fellows of the Institute in laboratories or works;

(iii) other candidates over 25 years of age who have been trained to the satisfaction of the Council and who have been engaged in the study and practice of chemistry for at least eight years.

Exemption from Examination for the *Associateship* may be granted to candidates who have obtained certain University degrees with 1st or 2nd Class Honours in Chemistry or other diplomas recognised by the Council, provided that they have complied with the regulations.

Admission to examination for the Fellowship is open to Asciates on producing satisfactory evidence of study and practice. Exemption from examination for the Fellowship is granted only to Associates of long experience or high attainments. Full particulars are given in the regulations.

In special cases candidates who have been systematically trained, and who have had considerable experience, may be examined for the Fellowship without passing through the grade of Associateship.

Diplomas.—Under the provisions of the Royal Charter, any Fellow of the Institute is entitled to use the initials F.I.C., and any Associate of the Institute the initials A.I.C.

The *Journal and Proceedings* which is published in six parts annually, contains particulars of the work of the Council, and abstracts of the reports of the Examiners, and deals with matters of professional interest.

Fees—Students' Annual Registration Fee: 10*s*. Associateship Examination: £5 5*s*. Fellowship Examination (Associates): £5 5*s*. Examination for Fellowship (candidates other than Associates): £10 10*s*. Annual Subscription Fellows, £2 2*s*., and Associates, £1 11*s*. 6*d*. Entrance fee to Associateship, £2 2*s*.; Fellowship, £5 5*s*.

Membership; 1933 Fellows and 3938 Associates. 725 Students.

President (1930–.): George Christopher Clayton, C.B.E., Ph.D. (Heid.).

Honorary Treasurer (1924–.): Patrick H. Kirkaldy.

BOARD OF EXAMINERS.

Chairman: The President.

Three representatives of the Nominations, Examinations and Institutions Committee.

Examiners for the Associateship :

John Jacob Fox, O.B.E., D.Sc. (Lond.).

Robert Robinson, D.Sc. (Manc.), F.R.S.

Examiners for the Fellowship :

Branch A.—Inorganic Chemistry: John Jacob Fox, O.B.E., D.Sc. (Lond.).

Branch B.—Physical Chemistry: Arthur John Allmand, D.Sc. (Liv.), F.R.S.

Branch C.—Organic Chemistry: Frank Lee Pyman, Ph.D. (Basle), D.Sc. (Vict.), F.R.S.

Branch D.—Biochemistry: Jack Cecil Drummond, D.Sc. (Lond).

Branch E.—Chemistry (including Microscopy) of Food and Drugs, and of Water: John Evans; Therapeutics, Pharmacology, and Microscopy: Gerald Roche Lynch, O.B.E., M.B., B.S. (Lond.), D.P.H. (Eng.).

Branch F.—Agricultural Chemistry: Henry Allen Dugdale Neville, M.A. (Cantab.), B.Sc. (Lond.).

Branch G.—Industrial Chemistry (General Chemical Technology): John Thomas Dunn, D.Sc. (Dun.).

Examiners in the special sections of Branch G will be appointed as required.

LOCAL SECTIONS.

Sections.	*Hon. Secretaries.*
Aberdeen and North of Scotland	Patrick Mitchell, M.A., B.Sc. (Aberd.), A.I.C., Schoolhouse, Countesswells, Aberdeen.
Birmingham and Midlands	Dr. F. W. Norris, A.R.C.S., A.I.C., 91, Witherford Way, Selly Oak, Birmingham.
Bristol and South-Western Counties	A. W. M. Wintle, F.I.C., 6, Glentworth Road, Redland, Bristol.

LOCAL SECTIONS—*continued.*

Sections.	*Hon. Secretaries.*
Cape of Good Hope ..	Dr. William Pugh, B.Sc., A.I.C., The University, Cape Town.
Edinburgh and East of Scotland	Dr. J. G. Mackay, B.Sc., A.I.C., 25, Hillview Terrace, Blackhall, Edinburgh.
Glasgow and West of Scotland	Dr. P. F. Gordon, F.I.C., Royal Technical College, Glasgow.
Huddersfield	Dr. H. W. Stephen, A.I.C., 144, Somerset Road, Huddersfield.
Ireland (Belfast) ..	C. S. McDowell, B.Sc., A.I.C., 33, Wellington Park, Belfast.
" (Dublin) ..	Dr. A. G. G. Leonard, F.I.C., 18, Belgrave Road, Dublin.
Leeds Area	H. J. Hodsman, M.B.E., M.Sc., F.I.C., Dept. of Fuel, The University, Leeds.
Liverpool and North-Western	W. F. Buist, B.Sc., F.I.C., Airdrie, Kilburn Avenue, Eastham, Cheshire.
London and South-Eastern Counties	J. R. Nicholls, B.Sc., F.I.C., c/o The Institute of Chemistry, 30, Russell Square, London, W.C.1.
Malaya	Dr. I. A. Simpson, A.I.C., Institute for Medical Research, Kuala Lumpur, Federated Malay States.
Manchester and District	Dr. Albert Coulthard, F.I.C., 136, Barlow Moor Road, West Didsbury, Manchester.
Newcastle-on-Tyne and North-East Coast	F. H. Walker, B.Sc., A.I.C., 17, Chester Street, Newcastle-on-Tyne.
New Zealand	W. Rest Mummery, F.I.C., Box 2, Aramoho, Wanganui, New Zealand.
South Wales	Dr. P. M. Macnair, A.I.C., Caecobin, Gower Road, Killay, Swansea.

HONORARY CORRESPONDING SECRETARIES.

The main duties of the Honorary Corresponding Secretaries are to afford information to Candidates desirous of joining the Institute, and to advise the Council with respect to matters of local professional interest.

EAST AFRICA.

Vincent Herbert Kirkham, B.Sc. (Lond.).

UNION OF SOUTH AFRICA.

CAPE PROVINCE ..	Charles Frederick Juritz, M.A., D.Sc. (Cape).
TRANSVAAL PROVINCE ..	James Gray.

COMMONWEALTH OF AUSTRALIA.

New South Wales	Thomas Cooksey, B.Sc. (Lond.), Ph.D. (Marburg).
Queensland	John Brownlie Henderson.
South Australia	William Arthur Hargreaves, M.A., B.C.E. (Melb.), D.Sc. (Adelaide).
Victoria	Arthur Edgar Leighton.
Western Australia	George Tattersall, B.Sc. (Lond.), M.Sc. (Manc.).

DOMINION OF CANADA.

British Columbia	Robert Boyd, B.Sc. (Glas.).
Manitoba	Matthew Archibald Parker, B.Sc. (Glas.)
Nova Scotia	Walter Charles Carter.
Ontario	Frank Thomas Shutt, M.A. (Toronto).
Quebec	Frederick Murray Godschall Johnson, M.Sc. (Montreal), Ph.D. (Breslau).

EGYPT.

Alfred Lucas, O.B.E.

THE EMPIRE OF INDIA.

Gilbert John Fowler, D.Sc. (Vict.).

(*Hon. Secretary*, Indian Advisory Committee of the Institute).

DOMINION OF NEW ZEALAND.

Bernard Cracroft Aston; Thomas Hill Easterfield, M.A. (Cantab.), Ph.D. (Würzburg); John Kenneth Harold Inglis, M.A., B.Sc. (N.Z.), D.Sc. (Edin.); William Rest Mummery.

BRITISH WEST INDIES.

Barbados	John Pedrozo d'Albuquerque, M.A. (Cantab.).

STRAITS SETTLEMENTS AND THE FAR EAST.

Bertie James Eaton, O.B.E.

BRITISH GUIANA.

William Francis.

Registrar and Secretary.—Richard Bertram Pilcher, O.B.E., F.C.I.S.

Assistant Secretary.—Ronald Leslie Collett, M.A. (Cantab.), F.I.C.

THE SOCIETY OF PUBLIC ANALYSTS AND OTHER ANALYTICAL CHEMISTS.

Founded, 1874. Incorporated, 1907.

(*Hon. Secretary,* Sessions House, Maidstone, Kent.)

The objects of the Society are:—to cultivate the study of analytical chemistry by holding periodical meetings, and by the publication of a journal devoted mainly to analytical chemistry; to study questions relating to the adulteration of articles of food, drugs, and commercial products generally, and its detection; and to promote the efficiency and proper administration of the laws relating to the repression of adulteration. Every candidate for membership must be twenty-one years of age, be, or have been, engaged in analytical, consulting or professorial chemistry, and be recommended by at least four members, three of whom must testify from personal knowledge as to his scientific and social fitness. The recommendation is read at two Ordinary Meetings, and is printed in the notice convening the next Ordinary Meeting at which election is decided by ballot. The meetings are held at the Rooms of the Chemical Society, Burlington House, Piccadilly, London, W. Entrance fee, £1 1*s*. Subscription, £1 1*s*., including Journal. Membership, 630.

President.—J. T. Dunn, D.Sc. (Dun.), F.I.C.

Hon. Treasurer.—E. B. Hughes, M.Sc. (Lond.), F.I.C.

Hon. Secretary.—F. W. F. Arnaud, F.I.C.

Secretary and Editor of "The Analyst."—C. Ainsworth Mitchell, M.A., D.Sc. (Oxon.), F.I.C.

Secretary and Editor's address.—85, Eccleston Square, London, S.W.1.

"*The Analyst,*" the official organ of the Society, is issued monthly, and contains reports of the proceedings of the Society, the papers read at its meetings, abstracts, and information as to analytical methods. (Trade Agents: Messrs. W. Heffer & Sons, Ltd., 4, Petty Cury, Cambridge; 3*s*. per part; Subscribers, in advance, 30*s*. per annum.)

THE SOCIETY OF CHEMICAL INDUSTRY.

Founded, 1881. Incorporated by Royal Charter, 1907.

(Central House, Finsbury Square, London, E.C.2.)

The principal objects of the Society are—to advance applied chemistry and chemical engineering in all branches; to afford the members thereof opportunities for the interchange of ideas with respect to improvements in the various chemical industries, and for the discussion of all matters bearing upon the application of chemical science; and to publish information thereupon.

President.—Sir Harry McGowan, K.C.B.

Chairman of Council.—H. Levinstein, Ph.D., M.Sc., F.I.C.

Hon. Treasurer.—R. T. Colgate, Ph.D., F.I.C.

Hon. Foreign Secretary.—E. F. Armstrong, Ph.D., D.Sc., LL.D., F.I.C., F.R.S., J.P.

Editors of the Society's Journal.—T. F. Burton, B.Sc.; S. Miall, LL.D., B.Sc.

General Secretary.—H. J. Pooley.

The following Local Sections of the Society have been formed and are in operation: American, Birmingham, Bristol, Canadian Pacific, Edinburgh, Glasgow, Liverpool, London, Manchester, Montreal, Newcastle, Nottingham, Ottawa, Shawinigan Falls, South Wales, Sydney (N.S.W.), Toronto, Yorkshire.

The Chemical Engineering Group has offices at Abbey House, Victoria Street, London, S.W.1, and the office of the newly formed Fuel Section is at the Headquarters of the Society.

The Journal is issued weekly and consists of three parts:

(1) *Chemistry and Industry*, containing articles on Pure and Applied Chemistry, lists of meetings to be held, summaries of proceedings of Scientific, Industrial, and Commercial Societies and Associations, also Trade Reports, Market Reports, Reviews and Correspondence. (2) *Transactions*, containing papers read before the Society and other original communications. (3) *Abstracts* in Applied Chemistry, being Section B of British Chemical Abstracts. The price of the Journal to non-members is £4 4*s*. per annum.

The Society also publishes an annual volume of Reports of the Progress of Applied Chemistry (12*s*. 6*d*.).

Entrance fee suspended. Subscription, £2 10*s*. Membership 5000.

THE BIOCHEMICAL SOCIETY.

Chairman of Committee.—T. A. Henry, D.Sc. (Lond.).

Hon. Secretaries.—A. C. Chibnall, M.A. (Cantab.), Ph.D. (Lond.), F.I.C., Imperial College of Science and Technology, South Kensington, London, S.W.7; Prof. H. Raistrick, B.A. (Cantab.), D.Sc. (Leeds), F.I.C., London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.

Hon. Treasurer.—J. A. Gardner, M.A. (Oxon.), F.I.C., 12E, Hyde Park Mansions, London, N.W.1.

Membership.—No Entrance Fee. Annual Subscription, £1 15*s.*

Publication.—Journal, Vol. XXV (1931), free to Members; £3 to Non-Members.

Hon. Editors.—A. Harden, Ph.D. (Erlangen), D.Sc. (Manc.), F.I.C., F.R.S.; C. R. Harington, M.A. (Cantab.), Ph.D. (Edin.).

THE ASSOCIATION OF BRITISH CHEMICAL MANUFACTURERS.

Founded and Incorporated, December, 1916.

(166, Piccadilly, W.1.)

The Association was formed in 1916 to promote co-operation between chemical manufacturers, to represent the industry in dealing with the Government, or Government Departments, in matters affecting chemical manufactures, and to deal with questions likely to promote industrial efficiency in the widest sense. The Association is non-political: it does not normally intervene in labour questions, nor with purely commercial activities of any kind: and takes no part in price rings, conventions or similar commercial agreements. It is incorporated under the Companies Acts, but is not a trading concern for profit.

There are at present 111 members, representing a capital of over £200,000,000, all of whom are *bona fide* manufacturers. The following Associations, representing other sections of the industry, are affiliated to it;—

The Association of British Insecticide Manufacturers.

The Association of Tar Distillers.

The British Chemical Plant Manufacturers' Association.

The British Sulphate of Ammonia Federation, Ltd.

British Wood Distillers' Association.

The Wholesale Drug Trade Association.

The Fertiliser Manufacturers' Association, Ltd.

The National Benzole Association, Ltd.

National Sulphuric Acid Association, Ltd.

The Association publishes every two years a Directory, "British Chemicals, their Manufacturers and Uses," in six languages, giving a classified list of the products made by members, and from time to time a special "Directory of British Fine Chemicals," covering some 3000 different products. Both these publications are issued gratis to *bona fide* enquirers.

The Association pays special attention to the question of safety in chemical works and has issued a set of "Model Rules" for this purpose. In addition, a summary of safety information is issued quarterly, while special safety circulars draw attention to items of particular importance. A monthly summary of information on chemical trade keeps members in touch with import and export statistics, tariffs, and new developments of interest to the industry.

Annual subscription 2½ guineas for each £10,000 of capital, minimum 25 guineas, maximum 250 guineas.

Membership 111.

President.—C. A. Hill, B.Sc., F.I.C.

Vice-Presidents.—Dr. G. C. Clayton, C.B.E., Ph.D., F.I.C.; Dr. Charles Carpenter, C.B.E., D.Sc., M.Inst.C.E.; R. G. Perry, C.B.E.

Chairman of Council.—Dr. E. F. Armstrong, Ph.D., D.Sc., LL.D., F.I.C., F.R.S., J.P.

Vice-Chairman.—D. Lloyd Howard.

Treasurer.—E. V. Evans, O.B.E., F.I.C.

General Manager and Secretary.—J. Davidson Pratt, O.B.E., M.A., B.Sc., F.I.C.

Technical Assistants.—R. Murdin Drake, M.Sc. (Leeds); C. H. Heap (Dyestuffs): Miss M. Hearne, B.Sc. (Lond.); Allan J. Holden, B.Sc. (Lond.); Miss D. A. F. Wordley.

THE INSTITUTION OF CHEMICAL ENGINEERS.

Incorporated, December, 1922.

(Abbey House, Victoria Street, Westminster, London, S.W.1.)

The object of the Institution is to act as a professional and qualifying body with reference to the subject of chemical engineering.

President.—J. Arthur Reavell.

Vice-Presidents.—C. S. Garland, B.Sc. (Lond.), A.R.C.S., F.I.C.; F. H. Rogers.

Hon. Treasurer.—F. A. Greene.

Hon. Secretary.—Prof. J. W. Hinchley, Wh.Sc., A.R.S.M., F.I.C.

Hon. Registrar.—H. Talbot, B.Sc.

Hon. Editor.—S. G. M. Ure, M.A., B.Sc.

ASSOCIATION OF PUBLIC ANALYSTS OF SCOTLAND.

Founded, 1903.

The chief objects of the Association are the maintenance of a high standard of professional conduct on the part of its members, and the promotion of the proper administration of the Sale of Food and Drugs Acts.

Hon. Secretary and Treasurer.—A. Dargie, B.Sc. (St. Andrews), A.I.C. (City Laboratory, Dundee).

YORKSHIRE ANALYSTS' ASSOCIATION.

An Association, formed more than thirty years ago, to promote the mutual interests of consulting and analytical chemists and public analysts in Yorkshire and the north of England.

Hon. Secretary.—William McD. Mackey, F.I.C., Victoria Chambers, South Parade, Leeds.

THE BRITISH ASSOCIATION OF CHEMISTS.

(Empire House, 175, Piccadilly, London, W.1.)

The Association aims at the attainment of adequate recognition for chemists and the practice of their profession, the establishment of a scale of minimum salaries for chemists, the restriction of the practice of chemistry to properly qualified chemists and, incidentally, to seek to have the term "chemist" legally redefined, the maintenance of an Appointments Bureau, and the establishment of a satisfactory system of training for chemists in co-operation with other organisations.

President.—S. R. Price, M.B.E., M.A. (Cantab.).

Vice-Presidents.—Sir Max Muspratt, Bart.; W. E. Kay; C. S. Garland, B.Sc., A.R.C.S., F.I.C.; Prof. E. C. C. Baly, C.B.E., F.I.C., F.R.S.; J. B. P. Harrison, F.I.C.

Chairman.—S. R. Price, M.B.E., M.A. (Cantab.).

General Secretary.—C. B. Woodley.

Hon. Registrar.—E. H. Rodd, D.Sc.

Hon. Editor.—H. T. F. Rhodes.

Hon. Treasurer.—W. H. Woodcock.

Membership.—No Entrance Fee. Annual Subscription, 21*s*.

SOUTH AFRICAN CHEMICAL INSTITUTE.

(Formerly the South African Association of Analytical Chemists.)

Founded, 1912.

(Box 5254, Johannesburg, S. Africa.)

The objects of the Institute include the encouragement and extension of the knowledge and study of analytical and industrial chemistry; the maintenance of the status of the profession; the promotion of a high standard of professional conduct; the promotion of the efficiency and administration of the laws dealing with adulteration; the registration of persons publicly practising or entitled to practise publicly as analytical chemists in South Africa.

Annual subscription for Members and Associate Members, £1 5*s*.

The Institute maintains an Appointments Register available to Members and Associate Members, and other approved chemists. Membership; 114 Members, 43 Associate Members and 39 Students.

President.—F. W. Fox, D.Sc., A.R.C.S.

Hon. Secretary and Treasurer.—James Gray, F.I.C.

Editor of Proceedings.—F. W. Fox, D.Sc., A.R.C.S.

CANADIAN INSTITUTE OF CHEMISTRY.

Incorporated by Letters Patent with Dominion Charter, August, 1921.

The Canadian Institute of Chemistry is a body of professional chemists. The organization is governed by a Council and President. The activities of the Institute extend throughout all Provinces. The regulations for admission are defined. Individuals may become members by election or examination, depending upon their academic training and experience, viewed from the standpoint of the standards for admission. There are three classes of members: Fellows, Associates, and Students.

President.—E. T. Sterne, B.Sc.

Hon. Secretary.—L. E. Westman, M.A., 366, Adelaide Street, West, Toronto, 2.

AUSTRALIAN CHEMICAL INSTITUTE.

Established 1917. Incorporated under the Companies Act of N.S.W., 1923.

(Science House, Gloucester Street, Sydney.)

The objects of the Institute are to raise the status and advance the interests of the profession of chemistry; to promote the usefulness and proficiency of persons practising the same; to afford facilities for the better education and examination of persons desirous of qualifying as technical analysts and chemical advisers; to obtain power to grant legally recognised certificates of competency.

A Branch Committee is appointed for each State, each Committee including a President, Honorary Treasurer and Secretary. The Council of the Australian Chemical Institute consists of the Presidents of the Branch Committees, together with a General Secretary and General Treasurer.

Fees: Entrance fee for Fellowship, £2 2*s*. Annual subscription for Students, 5*s*. Annual subscription for Members and Fellows, £1 1*s*. Over 850 Members.

President.—Professor E. J. Hartung, D.Sc.

Hon. General Secretary.—Thomas Cooksey, Ph.D., F.I.C.

Hon. General Treasurer.—Professor H. G. Chapman, M.D., B.Sc.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

Founded, 1841. Incorporated by Royal Charter, 1843.

(17, Bloomsbury Square, London, W.C.1.)

The object of the Society is to advance the study of Chemistry and Pharmacy, and to promote the technical education of those practising Pharmacy in Great Britain. In furtherance of this design, the Society maintains a School of Pharmacy, which is under the charge of Professor H. G. Greenish, D.ès Sc., F.I.C. Mr. W. H. Linnell, Ph.D., A.I.C., is Lecturer in Chemistry, and Mr. T. E. Wallis, B.Sc., F.I.C., is Lecturer in Botany.

Membership of the Society is exclusively restricted to registered Pharmaceutical Chemists or Chemists and Druggists who must have fulfilled the examinational and other requirements prescribed by the Pharmacy Acts.

Periodical meetings are held during the Session for the reading of papers on Chemical and Pharmaceutical subjects, and the Society's official journal, "The Pharmaceutical Journal," provides members with a weekly epitome of information and instruction regarding the Arts and Sciences allied to Pharmacy. Offices of the Journal: 72, Gt. Russell Street, London, W.C.1.

Annual subscription, £1 11*s.* 6*d.* Life fee, £26 5*s.* Membership, January, 1930, 14,508.

President.—A. R. Melhuish. *Secretary.*—H. N. Linstead.

Dean of the School of the Society (*see* p. 139).—Professor H. G. Greenish, D.és.Sc., F.I.C.

Pharmacological Laboratory, Nutrition Dept.—Research Biochemist.—F. J. Dyer, B.Sc. (Lond.), A.I.C.

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Examiners in Chemistry and Examiners in Pharmaceutical Chemistry.—J. J. Blackie; O. L. Brady, B.A., D.Sc., F.I.C.; H. Brindle, B.Sc., A.I.C.; J. E. Driver, Ph.D., A.I.C.; John Evans, F.I.C.; C. H. Hampshire, M.B., B.Sc., F.I.C.; H. H. Jones, F.I.C.; Prof. W. H. Lewis, M.A., F.I.C.; W. H. Linnell, Ph.D., A.I.C.; D. H. Richardson, Ph.D., A.I.C.; P. A. W. Self, B.Sc., F.I.C.; H. W. Webb, M.Sc., F.I.C.

Editor of Journal.—J. P. Gilmour.

PHARMACEUTICAL SOCIETY OF IRELAND.

Incorporated by Act of Parliament, August 11th, 1875.

(67, Lower Mount Street, Dublin.)

The Pharmaceutical Society of Ireland was founded under the authority of the Pharmacy Act (Ireland), 1875, and is empowered to hold examinations, on passing which a candidate is entitled to registration as a Pharmaceutical Chemist in Ireland, and is thereby qualified for election as a Member of the Society.

By an amending Act passed in 1890, the Society was further empowered to register, after examination, a grade of persons entitled to keep open shop for the sale, retailing, or mixing of poisons, but without the right to compound medical prescriptions, persons so registered being qualified for election as Associate Druggists.

The Society also conducts an examination for Assistants to Pharmaceutical Chemists, the successful candidates being entitled to transact the business of a Licentiate of the Pharmaceutical Society in Ireland, during the temporary absence of the Pharmaceutical Chemist. The Society controls a School for the training of students intending to qualify for the examinations.

Fees:—Preliminary, £3 3*s.*; Assistants, £1 1*s.*; Pharmaceutical Licence, £10 10*s.* Subscriptions:—(Members and Associate Druggists), Annual, £1 11*s.* 6*d.*; Life, £10 10*s.* The total number of Subscribers on December 31st, 1929, was 497; the total number of registered persons was 1445.

President.—F. J. Fitzpatrick. *Registrar.*—James J. R. Kerr.

THE IRON AND STEEL INSTITUTE.

Founded, 1869. Incorporated by Royal Charter, 1899.

(28, Victoria Street, London, S.W.1.)

The Iron and Steel Institute was founded to afford a means of communication between members of the iron and steel trades upon technical matters bearing on their respective manufactures, and to arrange periodical meetings for the discussion of practical and scientific subjects bearing on iron and steel industry.

The Journal of the Institute, which is issued at intervals of six months, contains particulars of the proceedings of the Institute, the original papers read before the Institute, and discussions on them, and notes on the progress of the home and foreign iron and steel industries.

The Institute awards annually research scholarships from funds provided by the late Mr. Andrew Carnegie, Past-President. The reports of the Carnegie Scholars on their research work are published in one volume each year, under the title of the "Carnegie Scholarship Memoirs."

Candidates for Membership of the Institute must be recommended by three members, and approved by the Council before election, by ballot, at a general meeting.

Entrance fee, £2 2*s*. Annual subscription, £3 3*s* for home members; £2 12*s*. 6*d* for non-resident members. Membership, 2,200.

President.—Colonel Sir Charles Wright, Bart., K.B.E., C.B.

Honorary Treasurer.—Sir Harold C. H. Carpenter, M.A., Ph.D., A.R.S.M., F.R.S.

Secretary.—G. C. Lloyd.

Assistant Secretary.—A. E. Chattin, B.Sc., A.I.C.

THE INSTITUTION OF MINING AND METALLURGY.

Founded, 1892. Incorporated by Royal Charter, 1915.

(Cleveland House, City Road, London, E.C.1.)

The Institution of Mining and Metallurgy was established for the advancement of the Science and Practice of Mining in respect of minerals other than coal and of Metallurgy in respect of metals other than iron; and to afford a means for facilitating the acquisition and preservation of that knowledge which pertains to the profession of a Mining Engineer and Metallurgist.

A candidate for admission into the class of Members or for transfer into that class must be not less than thirty years of age, and have been for at least five years (*a*) in full charge of important mining or metallurgical operations; or (*b*) in practice as a Consulting Mining Engineer or Metallurgist; and if born after the 31st December, 1894, must produce evidence to the satisfaction of the Council that he has at some time passed through a regular course of study in pure or applied science of at least three years' duration. The Council must be satisfied that the training and technical experience of any candidate practising as a Consulting Mining Engineer or Metallurgist justify such professional status. A candidate must be practising his profession at the time of his application and satisfy the Council that he is a fit and proper person to become a Member. The Council also have power to elect a candidate whose position and attainments in Science or Technology in their opinion justify his election as a Member.

A candidate for admission into the class of Associates or for transfer into that class must be not less than twenty-five years of age and have been engaged in mining or metallurgical pursuits for a period of not less than two years, if he has graduated at the Royal School of Mines or other Mining College or School of equivalent standard. Candidates who have graduated at other Colleges or Schools must have been engaged in such mining or metallurgical pursuits for at least three years or for such longer period as the Council may determine. Candidates who have not graduated at any College or School must have been engaged in mining or metallurgical pursuits for a period of not less than six years.

A candidate must be practising his profession at the time of his application and satisfy the Council that he is a fit and proper person to become an Associate.

A candidate for admission into the class of Students must be a person not under 18 years of age who is being educated or trained for, and who intends to adopt, the profession of a Mining Engineer or Metallurgist.

The annual volume of Transactions, Bulletins, etc., is issued to Members, Associates, and Students.

Entrance fees: Members, £5 5*s*.; Associates, £3 3*s* Annual subscriptions: Members, £5 5*s*.; Associates, £3 3*s*.; Students over 25 years of age, £1 11*s*. 6*d*.; under 25, £1 1*s*. Membership: 2300.

President.—James G. Lawn, C.B.E., A.R.S.M.

Hon. Treasurer.—Edgar Taylor.

Hon. Technical Editors.—Prof. S. J. Truscott; Prof. C. O. Bannister, A.R.S.M., F.I.C.

Secretary and Editor.—Charles McDermid.

THE INSTITUTE OF BREWING.

(Brewers' Hall, Addle Street, London, E.C.2.)

Founded in 1886 as "The Laboratory Club," known as the "Institute of Brewing" since 1890, and amalgamated with other Institutes under that title on January 1st, 1904.

The Institute of Brewing is the technical and research association of the Brewing Industry.

There are five classes of Membership, viz.; (1) Corporate, (2) Ordinary, (3) Diploma, (4) Associate, and (5) Student. Diploma and Associate Membership are open only to those brewers who have passed the prescribed examination of the Institute.

There are six sections of the Institute with headquarters in London, Manchester, Leeds, Birmingham, Edinburgh, and Burton-on-Trent. Monthly meetings, for the discussion of papers of interest to the Fermentation Industries, are held at these centres, and the papers and discussions are published in the *Journal of the Institute of Brewing* (published monthly).

The research work, commenced by the Institute in 1919, is supported entirely by the annual subscriptions of Corporate Members, of whom there are about three hundred. The fund so formed, which is under the control of a Research Fund Committee, is applied and used in promoting and assisting scientific investigations and research for the benefit of the fermentation industries generally. Advisory sub-committees are appointed for particular fields of work, and it is also a feature of the scheme that advantage should be taken, wherever possible, of existing facilities for the conduct of research.

Many of the investigations, namely those in connection with barley and hops, are of an agricultural nature, and close collaboration exists between the Institute and the various agricultural stations and institutions dealing with one or more aspects of the work.

The Library at Brewers' Hall contains the current literature in connection with the fermentation industries.

President.—Percy Gates.

Hon. Treasurer.—H. E. Field.

Hon. Foreign Secretary.—L. T. Thorne, Ph.D., F.I.C.

Secretary.—W. H. Bird, F.C.I.S.

Assistant Secretary.—C. E. Randell.

Organiser of Research—H. Lloyd Hind, B.Sc., F.I.C.

Biochemist (*East Malling Research Station*).—W. A. Roach, B.Sc. (Lond.), A.R.C.S., A.I.C.

Editor of Journal.—Julian L. Baker, F.I.C.

THE SOCIETY OF DYERS AND COLOURISTS.

(Pearl Assurance Buildings, Market Street, Bradford.)

The objects of the Society are: the promotion of scientific and technical knowledge among textile colourists, and the general advancement of the interests of the tinctorial and allied industries, excluding all questions connected with wages and trade regulations. Candidates for the Membership or Associateship must be practically engaged or interested in the use or manufacture of colours, or be persons of scientific attainments in chemistry or physics; Associates are transferred to the class of Members on attaining the age of 25 years; Junior Members are students and apprentices, under 21 years of age, in tinctorial or allied industries, or in the Dyeing Departments of Technological Schools.

The Journal, which is published monthly from the offices of the Society, contains the lectures and papers read before the Society, and is devoted to the technological and scientific aspects of dyeing, printing, and allied industries.

Every Candidate must be proposed and seconded by members. The name of the Candidate is published in the Journal, and unless objection be raised within fourteen days the Candidate is considered elected. Subscriptions: Members, £2 2*s.*; Associates, £1 1*s.*; Junior Members, 10*s.* 6*d.* Membership, 1800.

President.—Cyril Eastman.

Hon. Treasurer.—John Denton.

Hon. Secretary.—H. Jennison, A.M.S.T., A.I.C.

Editor of the Journal.—Walter M. Gardner, M.Sc., F.I.C.

Secretary.—J. B. Atkinson, F.I.S.A.

OIL AND COLOUR CHEMISTS' ASSOCIATION.

The Association was formed to assist the development, on scientific lines, of industries concerned with the manufacture of pigments, paint, printing ink, linoleum, rubber and varnishes, and the preparation of drying oils, volatile solvents and tar products.

President.—Noël Heaton, B.Sc. (Lond.).

Hon. Treasurer.—M. E. Dougherty.

Hon. Secretary.—Forrest Scott.

Secretary.—J. H. Aiken, 30, Russell Square, London, W.C.1.

Editor of the Journal.—A. A. Drummond, M.Sc. (Manc.), A.I.C.

THE INSTITUTE OF PHYSICS.

Incorporated, 1920.

(1, Lowther Gardens, Exhibition Road, London, S.W.7.)

The object of the Institute is on the one hand to secure the recognition of the professional status of the physicist, and on the other hand to co-ordinate the work of all the Societies interested in physical science or its applications. This co-ordination has already been secured by the participation of five of these Societies, namely:—The Physical Society of London, The Optical Society, The Faraday Society, The British Institute of Radiology and the Royal Meteorological Society.

The policy which the Institute has adopted to attain the above objects includes the following provisions:—

(*a*) The granting of diplomas to Corporate Members in order to secure authoritative recognition of them as physicists engaged in professional work. Corporate Members are of two classes, Associates and Fellows, depending upon academic qualifications and professional experience.

(*b*) The reduction of annual subscriptions to Participating Societies for members of the Institute of any class who are also members of two or more Participating Societies.

(*c*) A reduction of 33⅓ per cent. in the published annual price of periodical publications of any Participating Society, when purchased direct from the publisher or from the Society concerned, to any member of the Institute who is a member of any one Participating Society.

(*d*) The organisation of exhibitions of apparatus and of conferences on matters of physical interest.

(*e*) The provision of a building in which the several Societies may have their libraries and hold their meetings and discussions.

(*f*) The production and distribution to Corporate Members of the monthly Journal of Scientific Instruments, the lectures given before the Institute, and other publications.

MEMBERSHIP.

(1) *Ordinary Members.*—In order to secure the closest possible relationship between the Institute and the Participating Societies and to afford every opportunity to those interested in physical matters to associate themselves with the Institute, all members of the Participating Societies are eligible as Ordinary Members of the Institute.

Other persons possessing the requisite knowledge of, or interest in, Physics are also eligible for Ordinary Membership.

(2) *Corporate Members.*—The Corporate Members of the Institute, in whom alone authority is vested, consist of two classes, Associates and Fellows (designated A.Inst.P., F.Inst.P. respectively).

The qualifications for Associateship include the passing of an examination held by the Institute or of a recognised equivalent examination; and in addition a year's approved research or manufacturing experience. The examination may be dispensed with in the cases of candidates with qualifications approved by the Board.

A candidate for Fellowship of the Institute has, in addition to his academic qualifications, to show a total record of five years' experience, either in research or manufacture, or in any position requiring a thorough knowledge of Physics.

Corporate membership, 514; total membership, 617.

The subscriptions are as follows:—

	Entrance Fee.	Annual Subscription.	Life Subscription
Member ..	*£1 1 0 ..	Nil ..	Nil
Associate ..	£1 1 0 ..	£1 1 0 ..	£10 10 0
Fellow ..	£2 2 0 ..	£2 2 0 ..	£21 0 0

* Unless a member of a Participating Society.

Examination fee for Associates, £5 5*s*.

Conjoint Subscription.—After election to the Institute, a member of any class can obtain a reduction in his subscriptions to the Participating Societies if he be a member of more than one of such Societies.

President.—W. H. Eccles, D.Sc., F.R.S.

Treasurer.—Major C. E. S. Phillips, O.B.E.

Hon. Secretary.—Prof. A. O. Rankine, O.B.E., D.Sc.

Secretary.—J. J. Hedges, Ph.D.

THE FARADAY SOCIETY.

Founded, 1903.

(13, South Square, Grays Inn, London, W.C.1.)

The Faraday Society was founded to promote the study of Pure and Applied Electrochemistry, Electrometallurgy, Physical Chemistry and Metallography. More generally, one of the chief functions of the Society has been the discussion of "borderland" subjects, the full consideration of which involves many branches of science and technology and the bringing together of men engaged in work of so varied a character as to render such discussions outside the scope of the more specialised scientific and technical societies. The Society aims in a special degree at the co-ordination of science with practice.

Any person interested in the promotion of the objects of the Society is eligible for membership if proposed by a Member and the application is approved by the Council. A scientific society or library of any firm or company may become a Member of the Society, and may nominate a delegate who can exercise the same rights as an ordinary Member.

The subscription is £2 a year for Members, and £1 a year for Students. Members also pay an Entrance Fee of £1, with the exception of Members of The Chemical Society, The Institute of Metals, The Institution of Electrical Engineers, The Iron and Steel Institute, The Physical Society, The American Electrochemical Society, Deutsche Bunsen Gesellschaft, and Société de Chimie Physique, who are admitted without entrance fee and who may be recommended by the Council for election without the usual formal election. Membership, 550.

Papers read before the Society are printed in the Transactions which are published monthly. Members may subscribe at a reduced rate to the Transactions of the American Electrochemical Society, of which two volumes are published annually; also to the Zeitschrift für Elektrochemie and the Journal de Chimie Physique.

President.—Robert L. Mond, M.A.

Treasurer.—Emile Mond.

Secretary and Editor.—G. S. W. Marlow, B.Sc., F.I.C.

THE INSTITUTE OF METALS.

Founded, 1908. Incorporated, 1910.

(36, Victoria Street, Westminster, London, S.W.1.)

The Institute of Metals was founded to provide means for the advancement of knowledge relating to the non-ferrous metals and their alloys.

The objects of the Institute are: (*a*) To afford a means of communication between members of the non-ferrous metal trades upon matters bearing upon their respective manufactures, excluding all questions connected with wages, management of works, and trades' regulations; (*b*) To arrange periodical meetings for the purpose of discussing practical and scientific subjects bearing upon the manufacture, working, and use of the non-ferrous metals and their alloys; (*c*) To advance the knowledge of metals and alloys, *e.g.* by the publication of a journal containing both original papers and abstracts of publications relating to these subjects, and in any other way.

The Institute consists of Members and Students. Candidates for (full) Membership must be more than twenty-three years of age, and either (*a*) Persons engaged in the manufacture, working, or use of metals and alloys; or (*b*) Persons of scientific, technical, or literary attainments, connected with or interested in the metal trades, or with the application of metals and alloys. A Candidate for Membership is required to be recommended by three Members from their personal knowledge, and approved by the Council and Members before election. Members: Entrance fee, £2 2*s*.; Annual Subscription, £3 3*s*. Students: Entrance fee, £1 1*s*.; Annual Subscription, £1 1*s*. Membership, 2100.

President.—Richard Seligman, Ph.Nat.D.

Honorary Treasurer.—J. Fry.

Secretary and Editor.—G. Shaw Scott, M.Sc., F.C.I.S.

THE INSTITUTION OF PETROLEUM TECHNOLOGISTS.

(Aldine House, Bedford Street, Strand, London, W.C.2.)

The aims of the Institution are:—

(*a*) To enable technologists engaged in the petroleum or shale oil industry to meet and to correspond, and to accumulate trustworthy information regarding the occurrence and production or winning of petroleum and oil-shale, the conversion of the raw materials into manufactured products, and the characters and uses of these products, together with their transport and storage.

(*b*) To promote the better education of persons desirous of becoming professional consulting petroleum technologists, petroleum engineers, geologists, or chemists, and to elevate the professional status of those employed in the petroleum industry by setting up a high standard of scientific and practical proficiency, and by insisting upon the observance of strict rules in regard to professional conduct.

President.—A. E. Dunstan, D.Sc. (Lond.), F.I.C.

Hon. Secretary.—Arthur W. Eastlake, M.Inst.M.E., A.M.I.Mech.E.

Secretary.—Com. R. E. Stokes-Rees, R.N.

THE INSTITUTION OF STRUCTURAL ENGINEERS.

Founded, 1908, and Incorporated, 1909, as The Concrete Institute.
Reconstituted, 1922.

(10, Upper Belgrave Street, London, S.W.1.)

The objects of the Institution, as defined in the Memorandum of Association, are to promote intercourse between Structural Engineers, to advance the science and art of structural engineering, and to publish information relative to structural engineering including the constitution, properties, and use of materials.

Election to membership in any class is open only to candidates approved by the Council, who have passed such qualifying examination as the Council may from time to time determine.

Members are practising structural engineers, of at least 30 years of age. Election by ballot. Entrance fee, £3 3*s.*; Subscription, £4 4s.

Associates are Architects, Chemists, Physicists, Mathematicians and Technicians, of equal professional standing to Members, but not practising solely as Structural Engineers. Associates must be of at least 30 years of age. They rank equal in the Institution with Members, and pay the same Entrance Fee and Subscription. Election by ballot.

Associate-Members are Structural Engineers, of at least 25 years of age. Election by ballot. Entrance fee, £2 2*s.*; Subscription, £2 12*s.* 6*d.*

Graduates are Structural Engineers or students of structural engineering, who have passed the Graduateship Examination. They must be at least 21 years of age. Election by the Council. Entrance fee, £1 1*s.*; Subscription, £1 1*s.*

Students are students of structural engineering, of at least 18 years of age. Election by the Council. Entrance fee, 10*s.* 6*d.*; Subscription, 10*s.* 6*d.*

The Institution has its own premises, with offices, library, and meeting hall, and publishes a monthly *Journal.*

President.—R. H. H. Stanger, A.M.Inst.C.E.

Secretary.—Major R. F. Maitland, O.B.E.

II. A List of Societies and Institutions, the objects of which include the advancement of Chemical Science.

THE ROYAL SOCIETY.

Founded, 1660. Incorporated by Royal Charter, 1662.

(Burlington House, Piccadilly, London, W.1.)

The Society was incorporated by Royal Charter, granted by King Charles II., with the object of improving natural knowledge, and it aims at the advancement of science generally. Papers read before the Society are published in the Philosophical Transactions, the first number of which appeared in 1665, or in the Proceedings of the Royal Society, published since 1832.

The Society is entrusted with the distribution of grants to original investigators, and also awards medals in recognition of work of exceptional merit:—The Copley medal and two Royal medals, awarded annually, for scientific eminence; the Hughes medal, awarded annually, for original discovery in the Physical Sciences; the Davy medal, for Chemical Investigation; the Rumford and Darwin medals, awarded biennially, for investigations in Light and Heat, and in Biology, respectively; the Sylvester medal, awarded triennially, for Mathematical Research; and the Buchanan medal, awarded every five years, for distinguished services to Hygienic Science or Practice.

The Fellows number about 500. Election is limited ordinarily to 15 Fellows annually.

President.—Sir Frederick Gowland Hopkins, M.A., D.Sc., F.I.C.

Treasurer.—Sir Henry Lyons, D.Sc.

Secretaries.—H. H. Dale, C.B.E., M.D.; Sir F. E. Smith, K.C.B., C.B.E.

Foreign Secretary.—Lord Rayleigh, M.A., Sc.D.

Assistant Secretary and Librarian.—F. A. Towle.

ROYAL DUBLIN SOCIETY.

Founded 1731. Incorporated by Royal Charter, 1749.

(Ballsbridge, Dublin.)

The objects of the Society as defined by the Charter, are:—The advancement of Agriculture and other branches of Industry, and the advancement of Science and Art.

The Laboratory was established in the year 1795, under the direction of Richard Kirwan, at whose suggestion William Higgins was placed in charge and ordered "to make such experiments on dyeing materials and other articles, wherein chemistry may assist the arts, as may occur."

The Irish Radium Institute was founded by the Society in 1914 for the issue of radon to medical users in Ireland. The Society possesses about a gram of radium, which is stored in the laboratory, the radon being drawn off twice weekly.

Members are elected by ballot. Entrance fee, £3 3*s.*: Annual Subscription, £2 2*s.* Life Composition, £26 5s. No entrance fee. Number of Members limited to 9,000 by by-law. There is a long waiting list, the limit having been reached in 1927.

Papers read at the Scientific Meetings are published in "Scientific Proceedings," and "Economic Proceedings."

President.—Prof. J. Joly, Sc.D., F.R.S.

Honorary Secretaries.—W. E. Adeney, D.Sc., F.I.C.; D. R. Pack-Beresford, D.L.

Director.—Edward Bohane, C.B.E.

Registrar.—H. H. Poole, Sc.D.

THE ROYAL SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES AND COMMERCE.

Founded, 1754. Incorporated by Royal Charter, 1847.

(John Street, Adelphi, London, W.C.2.)

The "Society of Arts," which was granted, in 1908, the privilege of using the term "Royal," was established in 1754, for the encouragement of the arts and manufactures and commerce of the country "by bestowing rewards for such productions, inventions, or improvements as should tend to the employment of the poor, to the increase of trade, and to the riches and honour of the Kingdom; and for meritorious works in the various departments of the fine arts; for discoveries, inventions, and improvements in agriculture, chemistry, mechanics, manufactures, and other useful arts; for the application of such natural and artificial products, whether of Home, Colonial, or Foreign growth and manufacture, as may appear likely to afford fresh objects of industry, and to increase the trade of the realm by extending the sphere of British commerce; and generally to assist in the advancement, development, and practical application of every department of science in connection with the arts, manufactures, and commerce of this country."

The objects of the Society are unspecialised, and include the promotion of science, technology, industry, commerce, and arts, by the reading of papers and delivery of lectures. The Society also conducts examinations in the principal subjects of commercial education. In 1926 there were over 89,000 entries for these examinations.

Candidates for Fellowship must be proposed and recommended by not less than three Fellows, one of whom at least must sign on personal knowledge; or may be nominated by the Council.

The Society awards the Albert Medal, instituted as a memorial of the Prince Consort, for "distinguished merit in promoting the arts, manufactures, or commerce," and various other medals. The Journal of the Society is published weekly. Member's annual subscription, £3 3*s.*; Life subscription, £31 10*s.* Membership, over 3000.

President.—H.R.H. The Duke of Connaught and Strathearn, K.G.

Chairman of the Council.—Sir Edward Gait, K.C.S.I., C.I.E.

Treasurer.—Sir Charles H. Armstrong; Sir George Sutton, Bart.

Secretary.—G. K. Menzies, M.A.

THE MANCHESTER LITERARY AND PHILOSOPHICAL SOCIETY.

Founded, 1781.

(36, George Street, Manchester.)

The Society was founded for the advancement of literature and science, and is intimately associated with the names of Dalton and Joule, who published much of their work in the Society's "Memoirs." Much of the apparatus which belonged to Dalton, the thermometers used by Joule in his researches and other apparatus of historical interest, are preserved in the Society's house, which also contains a library of about 40,000 volumes.

The meetings are held fortnightly, from October to May, for the reading of papers and the discussion of matters of literary and scientific interest. The Chemical Section meetings are held on the last Friday in each month (October–March). A volume of "Memoirs and Proceedings" is published annually, and constitutes a record of the work brought before the meetings during the year.

Annual subscription, £2 2*s.*; no entrance fee. Life membership, £26 5*s.*

President.—C. E. Stromeyer, O.B.E., M.Inst.C.E.

Treasurer.—R. H. Clayton, B.Sc.

Honorary Librarians.—C. L. Barnes, M.A.: E. C. S. Dickson, B.A., Ph.D.

Secretaries.—D. C. Henry, M.A.; W. B. Wright, Sc.D.

Assistant Secretary and Librarian.—Miss M. H. Watson.

THE ROYAL SOCIETY OF EDINBURGH.

Incorporated by Royal Charters, 1783 and 1811.

(22/24, George Street, Edinburgh.)

The Society was established with objects similar to those of the Royal Society of London, but including, in addition, the promotion of Literature.

Meetings for reading and discussing communications and for general business, termed Ordinary Meetings, are held, when convenient, on the first and third Mondays of each month from November to July inclusive. There may also be special meetings. The papers, if suitable, are printed in the Society's "Transactions" (4to), or "Proceedings" (8vo).

Eight prizes are awarded by the Society; The Keith, Makdougall-Brisbane, Bruce, Neill, and Bruce-Preller Lecture Fund, awarded biennially; the Gunning-Victoria-Jubilee Prize, awarded quadrennially, and the James Scott and David Anderson-Berry Prizes, awarded triennially. Details regarding these awards may be obtained from the General Secretary.

Each Candidate for admission as Ordinary Fellow shall be proposed by at least four Ordinary Fellows, two of whom certify from personal knowledge that the candidate is deserving of the honour and likely to prove a useful and valuable Member. Further details can be obtained from the Secretary.

The membership consists at present of about 700 Ordinary Fellows and 54 Honorary Fellows. The number of Ordinary Fellows is not limited; that of Foreign Honorary Fellows is limited to 36, and of British Honorary Fellows to 20.

Annual Subscriptions: Each Fellow shall, before he is admitted to the privileges of Fellowship, pay an admission fee of three guineas, and a subscription of three guineas for the year of election. He shall continue to pay a subscription of three guineas at the beginning of each session so long as he remains a Fellow.

A Fellow may compound for the annual subscriptions by a single payment of fifty guineas, or on such other terms as the Council may from time to time fix.

President.—Sir E. A. Sharpey-Schafer, F.R.S.

Treasurer.—James Watt, W.S., LL.D.

General Secretary.—Prof. R. A. Sampson, D.Sc., LL.D., F.R.S.

Secretaries to Ordinary Meetings.—Prof. C. G. Darwin, F.R.S.; Prof. James Ritchie, D.Sc.

Curator of Library and Museum.—Prof. D'Arcy W. Thompson, C.B., F.R.S.

Assistant Secretary and Librarian.—G. A. Stewart.

Assistant Librarian.—R. J. B. Munro.

THE ROYAL INSTITUTION OF GREAT BRITAIN.

Established under a Charter of King George III., 1800;

Enlarged and confirmed by Act of Parliament, 1810.

(21, Albemarle Street, Piccadilly, London, W.1.)

The Royal Institution is an association of men and women for the advancement of natural knowledge. Its chief objects are to prosecute scientific and literary research; to illustrate and diffuse the principles of inductive and experimental science; to promote social intercourse among lovers of science, and to afford them opportunities for collective and individual study.

The subjects of the lectures delivered at the Institution are generally in connection with the different branches of inductive science, though courses are occasionally given on subjects of general interest. Friday evening meetings of the Members are held during the session, abstracts of the discourses being published in the "Proceedings of the Royal Institution," and circulated among the Members. Attached to the Institution are laboratories for the promotion of research in chemical and physical science.

Candidates for Membership, when duly proposed, are elected by ballot at a general meeting. Membership fees: £10 10*s.* on admission, which includes the first annual subscription of £5 5*s.*; or £63 in lieu of all payments.

President.—The Rt. Hon. Lord Eustace Percy, P.C.

Treasurer.—Sir Robert Robertson, K.B.E., M.A., D.Sc., LL.D., F.I.C., F.R.S.

Honorary Secretary.—Major Charles E. S. Phillips, O.B.E., F.Inst.P.

Secretary.—Thomas Martin, M.Sc.

General Keeper of Library.—Ralph Cory.

DAVY FARADAY RESEARCH LABORATORY.

The Laboratory was founded by the late Dr. Ludwig Mond, F.I.C., F.R.S., as a Memorial to Davy and Faraday, for the purpose of promoting, by original research, the development and extension of chemical and physical science.

Director.—Sir W. H. Bragg, K.B.E., M.A., D.Sc., F.R.S.

ROYAL PHILOSOPHICAL SOCIETY OF GLASGOW.

Instituted, 1802.

(207, Bath Street, Glasgow.)

The Society was established to aid the study, advancement, and development of the Physical, Natural, Mental, and Moral Sciences, and the Arts of Design, with their applications, and the diffusion of scientific knowledge.

Candidates for election as Ordinary Members must be proposed by three members and elected by ballot, after due notice, by three-fifths of the members present at an ordinary meeting. Entrance fee, £1 1*s.*; Annual subscription, £1 1*s.*; Compounding subscription, £12 12*s.*

Corresponding Members and Honorary Members (limited to twenty in number, and not more than three in any year) are nominated by the Council and elected by ballot as in the case of Ordinary Members. They are liable to no payments.

The Society comprises Sections devoted to the study of various branches of Art and Science. Each Section may have Associates. Subscription, 5*s.*

The Society possesses a library for the use of the Members and of the Associates of the Sections.

The "Proceedings" of the Society are published annually, and consist of a selection from the Papers which have been read at the meetings of the Society and its Sections, or of abstracts of these Papers

President.—George A. Mitchell, M.A.

Hon. Secretary.—C. R. Gibson, LL.D.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Established, 1831: Incorporated by Royal Charter, 1928.

(Burlington House, Piccadilly, London, W.1.)

The objects of the Association are:—To give a stronger impulse and a more systematic direction to scientific inquiry; to promote the intercourse of those who cultivate Science in different parts of the British Empire with one another and with foreign philosophers; to obtain more general attention for the objects of Science and the removal of any disadvantages of a public kind which impede its progress. The Association meets annually, for one week or longer; the place of meeting being determined by the General Committee not less than two years in advance.

The scientific work of the Association is divided under the following sections:—(*a*) Mathematical and Physical Science; (*b*) Chemistry; (*c*) Geology; (*d*) Zoology; (*e*) Geography; (*f*) Economic Science and Statistics; (*g*) Engineering; (*h*) Anthropology; (*i*) Physiology; (*j*) Psychology; (*k*) Botany; (*l*) Educational Science; (*m*) Agriculture. Abstracts of the papers contributed under each section are published in the annual report of the Association, with the addresses of the President and Sectional Presidents. Grants are made in aid of special research under Committees of the Association.

The terms on which new Members are admitted are:—For Life Members, £15; Annual Members, £1 10*s*. for Annual Meeting and Report; £1 for Annual Meeting or Report; Students 10s., subject to certain conditions.

President.—Prof. F. O. Bower, Sc.D., D.Sc., LL.D., F.R.S.

General Treasurer.—Sir Josiah Stamp, G.B.E.

General Secretaries.—Prof. J. L. Myres, O.B.E., D.Sc.: Prof. F. J. M. Stratton, D.S.O.

Secretary.—O. J. R. Howarth, O.B.E., M.A.

THE BRITISH SCIENCE GUILD.

Founded 1905.

(6, John Street, Adelphi, London, W.C.2.)

The Guild is a national organisation in which the interests of science, industry and education are represented, and their activities co-ordinated for the common good. No technical qualifications are required for membership.

The objects are:—

(1) To bring together as members of the Guild all those throughout the Empire interested in science and scientific method, in order, by joint action, to convince the people, by means of publications and meetings, of the necessity of applying the methods of science to all branches of human endeavour, and thus to further the progress and increase the welfare of the Empire.

(2) To bring before the Government the scientific aspects of all matters affecting the national welfare.

(3) To promote and extend the application of scientific principles to industrial and general purposes.

(4) To promote scientific education by encouraging the support of universities and other institutions where the bounds of science are extended, or where new applications of science are devised.

Subscriptions:—Life Fellowship, £10 10*s*.; Life Membership, £5; Annual Fellowship, £1; Annual Membership, 10*s*.; Annual Membership for Firms, £5 5*s*.

President.—The Right Hon. Sir Samuel Hoare, Bart., G.B.E., M.P.

Hon. Treasurer.—Lady Lockyer.

Hon. Secretaries.—Lieut.-Col. W. A. J. O'Meara, C.M.G., late R.E.; Capt. C. W. Hume, M.C., B.Sc.

Secretary.—Miss A. D. L. Lacey.

IV.

Legislation, Orders, Regulations, etc.,

AFFECTING OFFICIAL CHEMICAL APPOINTMENTS.

Summary of Legislation, Government Departmental Regulations, Recommendations, etc., relating to the Food and Drugs (Adulteration) Act 1928, affecting the Appointments and Duties of Public Analysts, (*see* p. 67), Official Agricultural Analysts, Water Examiners, &c.

The Acts, Orders, Regulations, etc. are generally applicable to England and Wales. While many are effective for Scotland and Northern Ireland as well, others are inapplicable to, or are subject to modification or alteration in, one or both these countries. While a Statute may define a sphere of operation, Orders and Regulations may not do so, and the applicability of them to Scotland or Northern Ireland must be determined by reference to the powers and scope of the Authority responsible for any item.

For purposes of reference an Act can always be identified by name, with the date included in the name: other legislation has sometimes to be particularised most specifically to avoid risk of error in referring to or ordering it. Where Statutory Rules and Orders are involved, the year and number suffice to qualify the name and even alone to identify an item. Other matter has to be identified in various ways. The abbreviation "S.R.O." is used for "Statutory Rules and Orders."

Except where stated to the contrary, all the publications mentioned can be obtained from His Majesty's Stationery Office, Adastral House, Kingsway, London, W.C.2.

In a few instances, sundry matter has been summarised in a form other than a Consolidation Act or Consolidated Regulations. In such cases the separate items, being the authoritative references, are specified as well as the summary.

While matters of Common Law and Case Law are outside the province of this catalogue, the degrees to which these affect forensic chemistry must not be overlooked. In matters of Food and Drugs Adulteration especially, Case Law interprets very many points and Common Law is often much needed in matters relating to water.

SECTION I.

FOODS.

Bread Act, 1822 (3 Geo. 4, Chap. 106).

Bread Act, 1836 (6 & 7 Will. 4, Ch. 37).

Refreshment Houses Act, 1860, provides that "fermented liquor containing a greater proportion than 40 per cent. of proof spirit shall be deemed and taken to be spirits." The Act is of limited application.

†Sale of Food and Drugs Act, 1875.—Repealed by Food and Drugs (Adulteration) Act, 1928, except Sections 30, 31 and 36. Section 30 is now nugatory as a result of the abolition of the tea duty, *vide* Circular 1059, 28th December, 1929, of the Ministry of Health.

***Sale of Food and Drugs Act Amendment Act, 1879.**

Sale of Horseflesh, etc. Regulation Act, 1889 (52 & 53 Vict. Ch. 11).—An Act to regulate the Sale of Horseflesh for Human Food. Section 7 reads : " For the purposes of this Act, ' horseflesh ' shall include the flesh of asses and mules and shall mean horseflesh, cooked or uncooked, alone or accompanied by or mixed with any other substance."

Spirits Act, 1880.—Defines " spirits " as meaning " spirits of any description and includes all liquors mixed with spirits and all mixtures, compounds or preparations made with spirits." The Act is of limited application.

Customs and Inland Revenue Act, 1885.—Makes an offence of the addition of water to beer.

Merchandise Marks Act, 1887.

***Margarine Act, 1887.**

***Sale of Food and Drugs Act, 1899.**—Section 4 gave power to the Board of Agriculture to make Regulations in regard to milk, cream, butter and cheese, and the following Regulations have since been made :—

(1) *Sale of Milk Regulations*, 1901, prescribed presumptive limits for fat, and for solids not fat, in milk, skimmed and separated milk.

* Repealed. † Partly Repealed.

(2) *Sale of Butter Regulations*, 1902, fixed limit for water in butter.

(3) *Sale of Milk Regulations*, 1912, amended Sale of Milk Regulations, 1901, as regards skimmed and separated milk.

Section 5 extended the provisions of the Margarine Act so that it applied to margarine cheese.

Section 8 limited the proportion of butter fat in the fat of margarine to 10 per cent.

Section 11 made it compulsory to label condensed separated milk and condensed skimmed milk.

Section 26 enlarged the scope of the Act of 1875 by defining the word " food " to include " every article used for food or drink by man, other than drugs or water and any article which ordinarily enters into or is used in the composition or preparation of human food," etc. This introduced additional articles not previously contemplated.

***Butter and Margarine Act, 1907.**—Section 4 fixed the limit for water in milk-blended butter at 24 per cent. and prohibited the manufacture or importation of butter or margarine containing more than 16 per cent. of water.

Section 5 fixed a limit for butter fat in margarine at 10 per cent.

Section 6 extended the power of the Board of Agriculture so as to enable it to make Regulations as to the proportion of any milk-solid other than milk-fat in any sample of butter or milk-blended butter.

Section 7 made a similar provision as regards preservatives.

Finance Act, 1910.—Section 52 defines " sweets " as " any liquor which is made from fruit and sugar or from fruit and sugar mixed with any other material and which has undergone a process of fermentation in the manufacture thereof and includes British wines, mead and metheglin." (Licence purposes only.)

†Milk and Dairies (Consolidation) Act, 1915.

***The Licensing Act, 1921.**—Section 10 deals with the dilution of spirits.

***Finance Act, 1921.**—Section 23 deals with sending samples to the Government Chemist.

* Repealed. † Partly repealed.

Milk and Dairies (Amendment) Act, 1922.—(12 & 13 Geo. 5. Ch. 54).—Section 4 prohibited the addition of any colouring matter or water or reconstituted milk or skimmed or separated milk to milk intended for sale, and also prohibited the sale of reconstituted milk as milk.

Section 8 gives power to the Minister of Health to make Regulations for labelling and composition of dried or condensed milk.

Section 13 provides that the certificate of an Analyst be *prima facie* evidence.

Bread Acts Amendment Act, 1922.—(12 & 13 Geo. 5. Ch. 28).—Legalises the addition of ingredients to flour for the purpose of making such flour self-raising and empowers the Minister of Health to make regulations prohibiting or restricting the use of such ingredients.

Sale of Food (Weights and Measures) Act, 1926.

Merchandise Marks Act, 1926 (16 & 17 Geo. 5. Ch. 53).

***Sale of Food and Drugs Act, 1927.**—To give effect to the recommendations of the Departmental Committee on the use of preservatives and colouring matters in food.

This Act provides that a purchaser of an article of food sold contrary to any of the clauses of the Public Health (Regulations as to Food) Act, 1907 (which prescribes the composition of any food intended for sale or prohibits or restricts the addition of any preservative or other material to any such article) shall be deemed, under section 6 of the Sale of Food and Drugs Act, 1875, to have demanded an article complying with the Regulations as to the presence or amount of any constituent specified ; and the addition of such ingredient or material contrary to the Regulations shall be deemed to be injurious to health.

Where the Regulations restrict the addition of any preservative or other material to any food such addition, if not exceeding the permitted limit, shall not be deemed to be injurious to health.

Agricultural Produce (Grading and Marking) Act, 1928 (18 & 19 Geo. 5. Ch. 19).

Food and Drugs (Adulteration) Act, 1928 (18 & 19 Geo. 5. Ch. 31).

Artificial Cream Act, 1929 (19 & 20 Geo. 5. Ch. 32).

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* Repealed.

Orders and Regulations made under the Sale of Food and Drugs Act.

Regulations as to Competency of Analysts, 1900. Amended by Memorandum: 36/Foods, January, 1929. (*See* page 70.)
Sale of Milk Regulations, 1901 and 1912.
Sale of Butter Regulations, 1902.

Public Health (Regulations as to Food) Act, 1907 (7 Edw. 7. Ch. 32).

Orders and Regulations made under the Public Health (Regulations as to Food) Act, 1907.

***Public Health (Milk and Cream) Regulations, 1912 and 1917.**—These Regulations were made under the Public Health Act, 1896, and the Public Health (Regulations as to Food) Act, 1907. They prohibited the addition of any preservative to milk, of thickening substances to cream, of any preservative to cream containing less than 35 per cent. of milk-fat, or any preservative other than hydrogen peroxide, or boric acid or borax (or a mixture of these two) to preserved cream, and, in the case of boron preservative, limited the amount of boric acid to 0·4 per cent. These Regulations were quite apart from the Sale of Food and Drugs Acts; they are to be carried out by the authorities executing these Acts, and the analyses involved must be made by the Public Analysts for those authorities. Moreover, the Analyst's certificate is not evidence in cases brought under these Regulations, and his attendance in Court is necessary, for which he is entitled to the usual fee. (These regulations have now been revoked by the Public Health (Preservatives, etc., in Food) Regulations.)

Public Health (Condensed Milk) Regulations, 1923.—Prescribed minimum percentages for milk fat and total milk solids in condensed milk of all kinds. Under these Regulations condensed milk must bear a label stating the equivalent of fresh milk, which the whole tine contains: in addition to the analysis, therefore, the Analyst must accurately gauge the contents of the tin and make the necessary calculations to test this statement.

Public Health (Dried Milk) Regulations, 1923.—The Analyst is not only concerned with the composition of the article but with the correctness of the directions on the container.

* Repealed.

Draft Rules and Orders (1925).—Draft dated 17th Feb. 1925 of the Public Health (Preservatives, etc., in Food) Regulations, 1925, followed later by Statutory Rules and Orders, 1925 (775) being the Public Health (Preservatives, etc., in Food) Regulations, 1925, dated 4th Aug. 1925. These provide that the Local Authority and every officer of a Local Authority " shall enforce and execute this part of these Regulations."

No person shall manufacture for sale or sell any food which contains any preservative* or any of the colouring matters specified in Part II of the First Schedule except certain classes of food, 17 in number, specified in Schedule I, Part I, which may contain one or other of the preservatives (Benzoic acid or Sulphur dioxide), permitted in proportions not exceeding those set forth in the schedule, the food being labelled or notified in the prescribed manner. If any food specified in Part I (Schedule I) is used in the preparation of any other food the latter may contain either of the permitted preservatives necessarily introduced in the preparation of the former, provided that the total proportion of any one preservative does not exceed that permitted in the schedule. No person shall sell cream which contains a thickening substance.† No person shall sell any article which is recommended (in any label, etc., on or in its container) for use as a preservative or colouring matter in food or which is likely to be so used, if contrary to the Regulations ; or being a preservative, which is not labelled in the manner prescribed therein ; nor shall any person recommend any article for use as a preservative or colouring matter in any advertisement, circular or notice, or describe or refer to it in terms likely to lead to such use, if contrary to the Regulations. A similar provision applies to " thickeners" in cream.

Provision is made for prohibiting the sale of imported foods which fail to comply with the Regulations and for the allocation of the duty of carrying this out between the Port and the Local Sanitary authorities, further details being given in *Circular* 606, dated 11th August, 1925.

* For the purposes of the Regulations, the following substances are not to be deemed "preservatives," viz.—sodium chloride, saltpetre, sugars, acetic acid or vinegar, alcohol or potable spirits, herbs, hop extract spices, essential oils used for flavouring, and (by the amended Regulations) glycerine and lactic acid; also any substance added to food by the process of curing known as smoking.

† "Thickening substance" means sucrate of lime, gelatine, starch paste or any other substance, which when added to cream, is capable of increasing its viscosity, but does not include cane or beet sugar.

Public Health (Preservatives, etc., in Food), Regulations (S.R.O. 1925 No. 775 as amended by 1926, No. 1557 and 1927, No. 577). Published together and embodied the preceding *item.*

The Public Health (Imported Milk) Regulations, 1926. (S.R.O. 1926, No. 820).—Imposes a standard of limit of bacteria.

Public Health (Condensed Milk) Amendment Regulations, 1927, dated 14th November, 1927. (S.R.O. 1927, No. 1092.)

Public Health (Dried Milk) Amendment Regulations, 1927, dated 14th November, 1927. (S.R.O. 1927, No. 1093.)

Milk (Special Designations) Order, 1923 (S.R.O. 1923 No. 601), **dated 25th May, 1923.**

Methylated Spirits Regulations, 1930, dated 31st October, 1930. (S.R.O. 1930, No. 832.)—This gives the proportions and combinations of the denaturants for the four types of methylated spirits.

The Milk and Dairies Order, 1926. (S.R.O. 1926, No. 821).—Concerned with the production of clean and sound milk.

SUBSIDIARY LIST.—Section I.

Legislation having only on rare occasions a direct importance to the professional chemist.

Merchant Shipping (Anti-Scorbutics) Order in Council, 1927. (S.R.O. 1927, No. 360).—This standardises orange juice for merchant vessels. Order is of limited application.

Importation of Carcases (Prohibition) (Amendment) Order of 1928. (S.R.O. 1928, No. 7).—Contains definition of " cooked or preserved meats " which are exempted by the provisions of the principal Order.

Agricultural Produce (Grading and Marking) (Wheat Flour) Regulations, 1929. (S.R.O. 1929, No. 753).—This includes standards for ash.

Agricultural Produce (Grading and Marking) (Malt Flour and Malt Extract) Regulations, 1929. (S.R.O. 1929, No. 1115).—This includes methods of analysis and standards.

Agricultural Produce (Grading) (Potatoes) Regulations, 1929. (S.R.O. 1929, No. 1117). This includes limits for earth, etc.

The Agricultural Produce (Grading & Marking) (Eggs) Regulations, 1930. Made by the Minister of Agriculture and Fisheries. (S.R.O. 1930, No. 132).

The Merchandise Marks (Imported Goods) No. 3 Order, 1928. (S.R.O. 1928, No. 571).—Order in Council concerning honey and fresh apples.

Merchandise Marks (Imported Goods) No. 5, Order, 1930. (Malt Products). (S.R.O. 1930, No. 566).—This includes a standard for cod-liver oil and malt extract (i.e. cod-liver oil, *with* malt extract).

The Merchandise Marks (Imported Goods) No. 5 Order, 1928. (S.R.O. 1928, No. 1052).—Order in Council concerning currants, sultanas and raisins ; eggs in shell and dried eggs ; and oat products.

Sweets (Manufacture) Regulations, 1927. (S.R.O. 1927, No. 728.)—(Licence purposes only).

British Wines Supplementary Regulations. (S.R.O. 1928, No. 88).—(Licence purposes only).

REPORTS, ETC.

The Report of the Departmental Committee on Preservatives and Colouring Matters, 1901, contained the following Recommendations, to which, except in so far as they are modified by subsequent legislation, the Analyst has to have regard, although they have not the force of law :—

That the use of formalin as a preservative should be entirely prohibited.

That the use of any preservative or colouring matter in milk should be forbidden.

That the only preservative allowed in cream, butter, and margarine be boric acid, its presence to be notified by label and the proportion not to exceed 0·25 per cent. in cream* and 0·5 per cent. in butter and margarine.

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* Modified by Milk and Cream Regulations, 1912–1917.

That the presence of salicylic acid in foods should be notified by label, the proportion not to exceed 1 grain per pint in liquids and 1 grain per pound in solids.

That no preservatives be allowed in infants' and invalids' foods.

That the proportion of copper allowed in preserved peas shall not exceed 0·5 grain per pound. [The Committee recommended the prohibition of copper, but one member—Dr. Tunnicliffe—dissented and his suggestion (as above) has been adopted practically throughout the country.] These recommendations have been largely amended or nullified by the Public Health (Preservatives, etc., in Food) Regulations.

The Royal Commission on Arsenical Poisoning, 1903, recommended that it should be an offence against the Sale of Food and Drugs Acts to sell beer or other liquid food containing 1/100 grain or more of arsenic per gallon or solid food containing 1/100 grain or more of arsenic per pound.

A Report of the Inspector of Foods (No. 2) to the Local Government Board, 1907, suggested that more than 1/7th grain of lead per pound and more than 1/100th grain of arsenic per pound should not be allowed in tartaric acid, citric acid, or cream of tartar.

A Report (No. 5) of the Inspector of Foods to the Local Government Board, 1908, on the preparation and sale of vinegar, suggested that vinegar should contain not less than 4 per cent. of acetic acid, that the presence of sulphuric acid should be prohibited, also the use of ferrocyanides, and that vinegar should be examined for copper and arsenic.

A Report (No. 6) to the Local Government Board, 1908, suggested the prohibition of certain preservatives in meat foods packed in cans or glass.

A Report (No. 7) to the Local Government Board, 1908, suggested that a proportion of tin in tinned foods equal to or exceeding 2 grains per pound may possibly be dangerous to health.

A Report to the Local Government Board (No. 4, Food Report No. 8), dated May 21, 1909, on " Facing " of rice and other methods of preparing rice for sale, recommended that rice containing more than 0·5 per cent. of mineral matter should be regarded as adulterated, and stated that authorities under the Sale of Food and Drugs Acts might " usefully consider such cases with a view to the institution of proceedings." (The expression " mineral matter " should be interpreted as meaning " extraneous mineral matter.")

A Report to the Local Government Board (No. 13, Food Report No. 10), 1909, suggested as the only permissible preservatives in cream, boric acid and (if only traces are left) hydrogen peroxide. The proportions in the case of boric acid not to exceed 0·4 per cent. between May and October, and 0·25 per cent. during the rest of the year. The presence of saccharin to be notified by label.*

A Report to the Local Government Board (No. 46, Food Report No. 13), 1911, dealt with the presence of calcium sulphate in baking powders and in self-raising flours, and suggested a limit of 10 per cent. for calcium sulphate in the acid phosphate used.

A Report to the Local Government Board (No. 55, Food Report No. 14), 1911, called attention to the bleaching of flour and the use of so-called "improvers."

A Report to the Local Government Board (New Series, No. 60, Food Report No. 17), Jan., 1912, drew attention to the presence of certain proprietary preservatives in milk, cream, margarine, etc.

British Pharmacopœia, 1914.—Prescribed quantitative limits for arsenic and lead in upwards of 100 articles.

A Report of the Departmental Committee on the Treatment of Flour with Chemical Substances, 1927. Ministry of Health publication.—Deals with nature and proposed limits for improvers and bleaching agents.

Impurities in Colouring Matters used in Foods.—First Report of Society of Public Analysts and others. The *Analyst*, April, 1928, p. 217. Provisional Limits for Arsenic.

Bacteriological Tests for Graded Milk. Memo. 139/Foods. Ministry of Health, February, 1929.

Food Orders.—During the war Food Orders establishing standards for many articles of food, were issued ; most of these have lapsed or have been revoked ; those affecting the work of the Public Analyst and remaining in force were in the Milk (England and Wales) Order, 1921, and the Order amending it, the main provisions of which appear to be re-enacted in the Milk and Dairies (Amendment) Act, 1922 (*see* above).

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* Superseded by the Public Health (Preservatives, etc. in Food) Regulations.

Letters from the Local Government Board to Local Authorities, copies of which were also sent to Public Analysts.

July, 1906.—Public Analysts were requested to record in their Quarterly Reports the number of milk samples tested for preservatives and the results obtained. (Under the Acts Public Analysts are under no obligation to state any details as to samples reported as "genuine.")

December, 1907.—Public Analysts were asked to distinguish between "formal" and "informal" samples in their reports. (The same request has been repeated in other letters of more recent date.)

May, 1910.—Information as to water in lard was asked for, also as to paraffin in lard, lard substitues and margarine.

December, 1910.—Public Analysts were asked to give details of the analyses of all milk samples submitted to them under the "Acts."

A letter from the Local Government Board to the Vinegar Brewers' Association (December 15, 1911) suggested that vinegar should not contain more than 0·000143 per cent. of arsenic, and that mineral acids, lead and copper should be absent.

December, 1911.—Public Analysts were asked to furnish particulars as to the results of analyses of "appeal to the cow" samples.

Circular 612 (July 31, 1925) drew attention to the Milk and Dairies (Consolidation) Act, 1925, which came into operation on 1st September, 1925, which enlarged the powers of the authority to take samples and authorises one authority to require another authority to take samples within the area of the latter, but any such sample is to be deemed as taken within the area of the original authority, and also amended the provisions as to the warranty defence.

Letter from the Ministry of Health. Circular 659, 21st December, 1926, drew attention to the presence of arsenic in imported apples in proportions ranging up to 1/10th grain per pound, and desired local authorities to make full use of their powers to arrange for the examination of apples likely to be affected.

Circular 752 (20th December, 1926) recommends a suitable form of wording for certificates under the Sale of Food and Drugs Acts in the case of samples of milk which are deficient both in fat and in non-fatty solids. After consultation with the Society of Public Analysts.

Circular 806 (29th June, 1927) suggests that the Regulation as to bacon and ham, coming into force on 1st July, 1927, shall not be enforced by the local authorities for the " next few months "—until stocks of vendors had been cleared.

The Minister recognises the possible natural occurrence of boric and benzoic acids, and of copper, in some foods, and makes it clear that only *added* preservatives and colouring matters are to be taken into consideration.

Standards for Jam.—These have been drafted by the Food Manufacturers Federation in collaboration with a Committee of the Society of Public Analysts. See *The Analyst*, 1930, LVI, page 694. These have no legal standing but represent the considered opinions of the bodies mentioned.

SECTION II.

DRUGS.

Some items of legislation in which drugs are mentioned can be more appropriately classified in other Sections.

Arsenic Act, 1851 (14th of Vic. Ch. 12). Eyre & Spottiswoode, Ltd.

Poisons and Pharmacy Act, 1908 (8 Edw. 7. Ch. 55).—Under this Act nine Orders in Council and Orders of Council have appeared, namely :—

(*a*) **Order in Council, 22nd March, 1911.** (S.R.O. 1911, No. 262).—This Order requires the addition of the words " Not to be taken " to the label in the sale by retail of certain poisonous substances and the use of bottles or other containers rendered distinguishable by touch for certain liquids.

(*b*) **Order in Council, 5th July, 1911**. (S.R.O. **1911,** No. 664).—This Order applies Section 5 of the Act to liquid preparations containing more than 5 per cent. by weight of free ammonia.

(*c*) **Order in Council, 11th October, 1912.** (S.R.O. 1912, No. 1512).—This Order applies Section 5 of the Act to liquid preparations of carbolic acid and certain other articles containing not more than 3 per cent. of phenols. The Schedule of the Act deals with stronger articles.

(*d*) **Order of Council, 12th March, 1913.** (S.R.O. 1913, No. 329).

(*e*) **Order of Council, 27th April, 1917.** (S.R.O. 1917, No. 403).

(*f*) **Order of Council, 11th December, 1917.** (S.R.O. 1917, No. 1294).

(*g*) **Order of Council, 1st December, 1920.** (S.R.O. 1920, No. 2263).

(*h*) **Order of Council, 26th February, 1925.** (S.R.O. 1925, No. 198).

(*i*) **Order of Council, 8th July, 1926.** (S.R.O. 1926, No. 861).

Items (*d*), (*e*), (*f*), (*g*), (*h*) and (*i*) make additions to, and other alterations in, the Schedule of the Act. These are embodied in a summary published by His Majesty's Stationery Office entitled " Poisons and Pharmacy Act, 1908. The Schedule as Amended up to 8th July, 1926," in 1926.

The Poisons and Pharmacy Act, 1908, included the Schedule of poisons and the restrictions on the sale of certain " poisonous substances " not in the schedule. The sale of poisons mentioned in the Schedule is subject to conditions detailed in the Pharmacy Act, 1868. See *Subsidiary List.* (*New legislation is under consideration.*)

The Labelling of Poisons Order, 1924. (S.R.O. 1924, No. 1403).

Dangerous Drugs Act, 1920. (10 & 11 Geo. 5. Ch. 46).

Dangerous Drugs and Poisons (Amendment) Act, 1923. (13 & 14 Geo. 5, Ch. 5).

Dangerous Drugs Act, 1925. (15 & 16 Geo. 5. Ch. 74.)—The three preceding Acts may be cited together as the Dangerous Drugs Acts, 1920 to 1925.

The Dangerous Drugs (Consolidation) Regulations, 1928, dated 14th December, 1928. (S.R.O. 1928, No. 981).

Therapeutic Substances Act, 1925. (15 & 16 Geo. 5, Ch. 60).

The Therapeutic Substances Regulations, 1927. (S.R.O. 1927, No. 486).

Dangerous Drugs (Benzoyl Morphine) Regulations, 1928.

SUBSIDIARY LIST.—Section II.

Other legislation having occasional reference to matters of interest to chemists.

Medicine Stamp Act, 1812.

The Narcotic Drugs Order as Amended by Army Council Order, 5th June, 1918.—This forbade the supply of drugs scheduled in the Order by unauthorised persons to members of His Majesty's Forces. Its immediate interest is the provision of a list of drugs regarded as narcotics in the Schedule which follows :—Acetanilide, barbitone, benzamine lactate, benzamine hydrochloride, chloral hydrate, coca, cocaine, codeine, diamorphine, indian hemp, morphine, opium, phenacetin, sulphonal and its homologues : all other salts, preparations, derivatives or admixtures prepared therefrom or therewith.

National Health Insurance. Medical Benefit Consolidated Regulations, 1928. (S.R.O. 1928, No. 965.)—The only portions of these Regulations pertinent to this catalogue are the parts of Section 9 which read as follows :—

" The Committee [the Insurance Committee for any County] and the Pharmaceutical Committee shall jointly prepare schemes for testing the quality and amount of the drugs and appliances supplied to insured persons by persons supplying drugs or appliances . . . the schemes shall form part of the terms of service of persons supplying drugs or appliances. . . . In the event of the Committees failing to agree on the schemes, the matter shall be referred to the Minister, whose determination shall be final."

The Section also permits amendment of the scheme from time to time.

National Health Insurance. Memorandum on the Scheme for Testing Drugs and Appliances Supplied to Insured Persons. The Ministry of Health is understood to have drawn up the Scheme in consultation with the Retail Pharmacists' Union. It deals, *inter alia*, with methods of sampling and the form of the Certificate of Analysis. The Memorandum which was circulated to Insurance Committees in England and Wales appears to be unobtainable through the usual channels but the text will be found in *The Pharmaceutical Journal* for 7th March, 1925, pp. 275, 276.

A revised scheme was formulated in 1927, but it is understood to contain nothing affecting the analyst's duty.

The analyst is appointed by the Minister of Health.

Medical Act, 1858.—Section 54 authorises the General Medical Council to prepare the "British Pharmacopœia."

Pharmacy Act, 1868 (31 & 32 Vict. Ch. 121).—This has been modified in many respects by subsequent legislation, but the Regulations to be observed in the sale of scheduled poisons are effective except as modified in the Poisons and Pharmacy Act, 1908 and in the Dangerous Drugs and Poisons (Amendment) Act, 1923.

SECTION III.

WATER SUPPLY.

It is rarely that anything in the text of the undermentioned Acts has any direct call on the attention of the professional chemist. The analyst gives his opinion on the fitness of the water for drinking and domestic purposes and others interpret the legal bearing.

Public Health Act, 1875 (Clauses 51-70).

Public Health (Water) Act, 1878.

SECTION IV.

POLLUTION OF RIVERS, SEAS AND OTHER WATERS. SEWAGE DISPOSAL. TRADE WASTES.

As the text of the following items sometimes determines the character of the scheme of analysis, they are of importance in many cases.

Public Health Act, 1875 (Secs. 68-70).—Deals with pollution by gas washings or sewage and closure of wells.

Rivers Pollution Prevention Act, 1876 (39 & 40 Vict. Ch. 75).

Public Health (Amendment) Act, 1890.—Deals with pollution by solid refuse.

Rivers Pollution Prevention Act, 1893 (56 & 57 Vict. Ch. 31).

Oil in Navigable Waters Act, 1922 (12 & 13 Geo. 5. Ch. 39).—Makes provision against the discharge or escape of oil into navigable waters.

Salmon and Freshwater Fisheries Act, 1923 (13 & 14 Geo. 5. Ch. 16).—Section 8 deals with the protection of waters containing fish from poisonous matter and trade effluents. Tributaries of waters, spawning grounds and the food of fish are included in the protection.

Note.—An amending Act of 1929 does not alter Section 8 and merely alters the position of sea trout (migratory trout) and provides for the sale of frozen trout from New Zealand and Canada during the close season.

Rivers Pollution Commission (Second Royal Commission, 1868). Fifth Report of the Commissioners.—Pollution arising from Mining Operations and Metal Manufactures. Vol. I, Report and Maps, 1874. (Cd. 951.)—Recommended " liquids be deemed polluting and inadmissible to any stream " if any of chemical constituents mentioned exceeded the limit they specify. These standards are also, in whole or part, given in the earlier reports. They are still referred to as authoritative.

Royal Commission on Sewage Disposal. Final Report of the Commissioners. General Summary of Conclusions and Recommendations, 1915. (Cd. 7821.)

General Directions and Specifications Relating to the Tar Treatment of Roads.—Issued by the Ministry of Transport. Revised Edition, 1922.

Ministry of Agriculture and Fisheries. Memorandum on Sheep-Dips and Sheep-Dipping including Sheep-Washing. Dated 19th April, 1923.—Unobtainable from ordinary sources. Printed with the Sheep Dipping Regulations issued by a Local Authority. Probably obtainable from a Sergeant of Police. This provides for the water passing from the sump in which sheep-washing has been performed being allowed, if possible, to drain over at least 100 yards of land before regaining the proper channel.

Sheep-Washing: Fisheries Notice No. 11 (13.4.23).—On the same lines as above.

Convention of International Conference at Washington, 1926.—Awaits ratifications of (at least five of) the thirteen Governments represented. The admiralty (Fleet Orders, 1927) and some British shipowners have accepted it. Article II declares that discharges may be prohibited in any area prescribed (usually within 50 nautical miles of a coast but the area would in some places extend to a width not exceeding 150 nautical miles) of crude, fuel or Diesel oil or any mixure containing more than ·05 of 1 per cent. of such oil or having a content of such oil sufficient to form a film on the surface of the sea visible in daylight to the naked eye in clear weather.

Note.—Letter from Mr. J. R. Pretyman Newman to *The Times*, June 6, 1928, mentions that the Admiralty has laid down as a test of efficiency for their own purposes a separator which must discharge overboard a mixture containing not more than one part of oil to 200,000 parts of water.

The Select Committee dealing with private Bills promoted by local authorities has recently (May 1929) allowed clauses in the Chester Corporation Bill and the Nottingham Corporation Bill for prevention of pollution by sewage or other offensive or injurious matter from houseboats.

Other legislation of importance to chemists.

SECTION V.

CRIMES AND NON-INDUSTRIAL ACCIDENTS.

Offences Against the Person Act, 1861.—The Criminal Justice Act, 1925, amends Sections 42 & 43.

Coroners Act, 1887.—(50 & 51 Vict. Ch. 71). The 1926 Act makes important amendments.

Coroners (Amendment) Act, 1926. (16 & 17 Geo. 5. Ch. 59).—Section 22 (1) (*b*) empowers the coroner to " request any person whom he considers to possess special qualifications for conducting such a special examination " to make " a special examination, by way of analysis, test or otherwise of such parts or contents of the body or such other substances or things as ought in the opinion of the coroner to be submitted to analysis, tests or other special examination with a view to ascertaining how the deceased came by his death." (The repealed portion of the 1887 Act specifically mentioned only " an analysis of the contents of the stomach or intestines.")

Criminal Law Amendment Act, 1885.

Criminal Law Amendment Act, 1922.

Criminal Justice Administration Act, 1914.

Criminal Justice Act, 1925.

Infectious Disease (Prevention) Act, 1890.—This was formerly an " adoptive " Act, but is now in force throughout England and Wales. (Section 4 deals with infectious disease caused by milk).

Public Health (Shell-Fish) Regulations, 1915.—This gives power to close shell-fish layings which may be liable to dangerous contamination.

Lead Tetra-Ethyl in Motor Spirit, Final Report of the Departmental Committee (1930). This proposes limit for the proportion of lead tetra-ethyl.

Other legislation sometimes of import in non-industrial accidents will be found in other Sections.

SECTION VI.

INDUSTRIAL POISONINGS, ACCIDENTS AND HYGIENE.

Petroleum Acts, 1926 and 1928.

Factory and Workshops Acts, 1901 to 1920.

Workmen's Compensation Act, 1925.—(15 & 16 Geo. 5. Ch. 84).

Workmen's Compensation (Industrial Diseases) Consolidation Order 1929. (S.R.O. 1929, No. 2), gives schedule of recognised poisonings.

White Phosphorus Matches (Prohibition) Act, 1908.

Coal Mines Act, 1911.

Gas Regulations Act, 1920.—See " Gas Examiners."

Sandstone Industry (Silicosis) Scheme, 1929.—See *The Home Office.*

Chemical Works Regulations, 1922. (S.R.O. 1922, No. 731.)

Lead Paint (Protection against Poisoning) Act, 1926. (16 & 17 Geo. 5. Ch. 37).

Lead Paint Regulations, 1927, made by the Secretary of State (Home Office) (S.R.O. 1927, No. 847). These include a definition of " lead paint " for the purpose of the Act. There are also two Orders made by the Secretary of State under the Act (S.R.O. 1926, No. 1620 and S.R.O. 1927, No. 1094). A Rule made by the Secretary of State (S.R.O. 1926, No. 1621) describes the method of treatment, including process for analysis, to be applied for the purpose of ascertaining whether material is lead paint.

Alkali, etc., Works Regulation Act, 1906.

Alkali, etc., Works Order, 1928.—(S.R.O. 1928, No. 26).

Diseases of Animals Act, 1903.—(3 Edw. 7. Ch. 43) provides for the compulsory adoption of remedies for sheep-scab and enacts that, when this includes sheep-dipping, no dipping place shall be used if it would " injuriously affect the water in any stream, reservoir, aqueduct, well, pond, or place constructed or used for the supply of water for drinking or other domestic purposes."

Diseases of Animals Acts, 1894 to 1925.—Standards for Sheep Dips. These are printed on the back of " Form 746/T.A. Application to the Minister of Agriculture and Fisheries, for Approval of a Sheep-dip for the Purposes of the Orders of the Minister relating to Sheep-Scab and Sheep-Dipping in Great Britain." Apply to the Minister.

Sheep Dips (Regulation) Order, 1926.—This prohibits the use of an arsenical sheep dip for the second dipping of sheep.

Sheep Scab (Amendment) Order, 1930.—This deals with the labels to be affixed to approved sheep dips.

Orders in Council making (and amending) Regulations as to the Sale of Certain Poisonous Substances for Agricultural and Horticultural Purposes.—(S.R.O. 1909, No. 345 ; 1911, No. 1080 ; 1920, No. 2083).

SECTION VII.

MISCELLANEOUS.

Fertilisers and Feeding Stuffs Act, 1926.—(16 & 17 Geo. 5. Ch. 45).

Fertilisers and Feeding Stuffs Regulations, 1928.—(S.R.O. 1928, No. 421), gives tables of limits of error and methods of analysis. Also makes alterations in the Schedules of the Act.

Circular Letters issued to Clerks of Local Authorities by the Ministry of Agriculture and Fisheries : (i) Letter of 17th February, 1927 ; (ii) Letter of 12th June, 1928, which includes directions for qualifying as an Agricultural Analyst. These letters are unobtainable through ordinary channels, but are printed in *The Fertilisers and Feeding Stuffs Act*, 1926 by H. J. Johns (Butterworth & Co., Ltd.).

Fees approved by the Institute of Chemistry for analyses by Official Agricultural Analysts. See *The Journal and Proceedings*, 1927, Part VI, p. 259.

Rag Flock Act, 1911.—(1 & 2 Geo. 5. Ch. 52).

Rag Flock Act (1911) Amendment Act, 1928.—(18 & 19 Geo. 5. Ch. 39).

Rag Flock Regulations, 1912.—(S.R.O. 1912, No. 578) gives standard and scheme of analysis.

Rag Flock Regulations (Scotland), 1912.—(S.R.O. 1912, No. 628). This differs from No. 578 only as regards country.

Carriage of Goods by Sea Act, 1924.

Further Information Regarding Official Appointments Overseas.

A Colonial Office Memorandum (Miscellaneous 280), on Agricultural, Veterinary, Forestry, and other Scientific Appointments in the Colonial Service, which is reprinted annually, contains information for the assistance of intending candidates for such appointments.

For service in Tropical Africa candidates must be not less than 21½ years of age at the time of taking up their duties, although they may apply earlier in order that their applications may be completed in time to be considered at the earliest possible moment. For other appointments candidates should usually be not less than 21 years of age; candidates for colonial agricultural scholarships should be not less than 19 years of age. The usual maximum age limit for junior appointments is 35, but candidates under 30 are in most cases definitely preferred. No candidate will be considered by the Secretary of State for the Colonies for appointments at his disposal who has not—if of suitable age—served in some branch of H.M. Forces during the late war, unless his reasons for not having done so are considered entirely satisfactory.

Under Part I: General—Appointments at the disposal of the Secretary of State are confined to those Colonies, Protectorates, etc., which are administered under his directions:—

In Tropical Africa, on the East side: Kenya, Nyasaland Protectorate, Tanganyika Territory, Uganda Protectorate, Somaliland Protectorate, Zanzibar Protectorate and Northern Rhodesia.

On the West side: Nigeria, the Gold Coast, Sierra Leone and the Gambia.

Eastern Colonies and Protectorates: Ceylon, Hong Kong, the Straits Settlements and the Malay States.

The West Indian Colonies: Jamaica, Bahamas, Barbados, Windward Islands, Leeward Islands, Trinidad, etc., and British Guiana and British Honduras.

Western Pacific: Fiji, Gilbert and Ellice Islands Colony, British Solomon Islands Protectorate.

Cyprus and Gibraltar, in the Mediterranean.

Various islands: Mauritius, Seychelles, Bermuda, Falkland Islands and St. Helena.

Palestine: The 'Iraq Government Service is almost exclusively staffed by 'Iraqis, although British officers are attached as advisers or inspectors to certain departments, appointments being made by the King of 'Iraq with the concurrence and, usually, on the recommendation of the Secretary of State for the Colonies.

General information respecting the Colonial Service can be obtained from the "Dominions Office and Colonial Office List," published by Messrs. Waterlow & Sons, which contains also the *Colonial Regulations* showing the rules as to leave of absence, free passages, etc. These regulations can be purchased separately from H.M. Stationery Office. Information regarding the East African Dependencies—conditions of life, climate, and living expenses—can be obtained from H.M. East African Trade and Information Office, Royal Mail Buildings, Cockspur Street, London, S.W.1. Similar information concerning Malaya and the West Indian Colonies (together with British Guiana and British Honduras) may be obtained from the Malay States Information Agency, 88, Cannon Street, London, E.C.4, and the West India Committee, 14, Trinity Square, London, E.C.3, respectively.

The Secretary of State does *not* select candidates for appointments for self-governing Dominions (Canada, Australia, New Zealand, Union of South Africa, the Irish Free State and Newfoundland) or for territories under their control, regarding which information can be obtained from the High Commissioners or Agents-General in London. Appointments in Southern Rhodesia are controlled by the Government of Southern Rhodesia. For information regarding them, application should be made to the High Commissioner, Crown House, Aldwych, London, W.C.2. Applications for appointments in Malta should be addressed to the Secretary to the Head of Ministry, Malta. Applications for appointments in the Sudan should be made to the Controller, Sudan Government Office, Wellington House, Buckingham Gate, London, S.W.1; but members of the Universities of Oxford, Cambridge, London (and University College), Edinburgh, Glasgow, Dublin (Trinity College), and Wales should apply through the Appointments Committee, or Board, of their University. For appointments in North Borneo applications should be made to the British North Borneo Company, 17, St. Helen's Place, London, E.C.2. Information regarding appointments in Sarawak, made by His Highness the Rajah, can be obtained from the Sarawak Advisory Committee, Sarawak, 2, Millbank, London, S.W.1.

Under Part II: Agricultural Appointments—reference is made to Specialist and Research Appointments, including those of agricultural chemists, for which a good scientific university education and some post-graduate work are required. In a footnote it is stated that a chemistry student who wishes to qualify for appointment as an Agricultural Chemist should refer to the syllabus approved by the Institute of Chemistry of Great Britain and Ireland for the Fellowship Examination in the branch of Agricultural Chemistry, and that it would be to his advantage to possess the certificate of the Institute in that branch. Reference is also made to Colonial Agricultural Scholarships and to the Imperial College of Tropical Agriculture in Trinidad, particulars of which can be obtained from the Director of Recruitment (Colonial Service), Colonial Office.

The Memorandum contains particulars of the approved establishments of the Agricultural Departments of the Colonies and Protectorates which are administered under the direction of the Secretary of State.

Part III deals with Veterinary Appointments, and Part IV with Forestry Appointments. In Part VI: Appointments for Analytical Chemists—in referring to other appointments for chemists at the disposal of the Secretary of State—the Memorandum contains the following statement:—

> "A candidate for one of these appointments should usually be an Associate of the Institute of Chemistry, and should possess a good University degree in Chemistry. It would also be to his advantage to hold the certificate of the Institute of Chemistry in Branch E—The Chemistry (including Microscopy) of Foods and Drugs and Water. The duties and qualifications required vary, but as a rule the Government Analyst may be called upon to undertake any analytical work that falls outside the sphere of the Agricultural Chemist, e.g., the analytical examination of stores such as cement, oils, and paints; the analysis of samples of water, food and drugs; the identification and assaying of ores; bacteriological and medico-legal work. His duties may include the teaching of the native subordinate staff and a certain amount of work outside the laboratory, such as the inspection of cargoes on board ships. Research Chemists are sometimes required to carry out special investigations."

Particulars of certain appointments are then given.

Part VII deals with geological appointments, which, in some colonies, include appointments for chemists.

ERRATA.

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